BIOLOGICAL TECHNICAL REPORT
FOR
PIJNENBURG MINOR SUBDIVISION
TPM 20778
Log No. 03-20-007

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Final Draft
August 2006

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1.0 SUMMARY OF FINDINGS

The proposed project is a subdivision and residential development of 76.4 gross acres into four parcels plus a remainder parcel. The project is located in southern portion San Diego County within the Community of Barrett Junction in the Jamul/Dulzura planning area of the County of San Diego (Figure 1). The proposed project is located within the USGS 7.5' Tecate Quadrangle, Township 18 South, Range 3 East (Figure 2). The proposed project is located east of the Metro-Lakeside-Jamul portion of the Multiple Species Conservation Program (MSCP).

This report provides information regarding existing conditions, compliance with the Resource Protection Ordinance (RPO), and performs an impact analysis based on the current site design. This report also recommends mitigation measures that conform with the Resource Protection Ordinance, therefore reducing any impacts to below a level of significance.

General biological surveys, focused Quino checkerspot survey, habitat assessment for the arroyo toad, sensitive plant surveys, and a Resource Protection Ordinance Study to identify the limits of the RPO wetland were performed onsite. The biological resources on-site include three habitat types: developed, southern mixed chaparral and coastal sage-chaparral scrub. The Resource Protection Ordinance would afford protection to the coastal sage-chaparral scrub, the southern mixed chaparral and the RPO wetlands and buffer.

No state or federally listed plant or animal species were observed on-site. Sensitive plant species observed includes *Cupressus forbesii, Machaeranthera juncea, Viguiera laciniata, Chamaebatia australis, Deinandra floribunda,* and *Lathyrus splendens*. Two sensitive wildlife species were observed onsite, the turkey vulture (*Cathartes aura*) and mule deer (*Odocoileus hemionus*).

Impacts to approximately 7.20 acres of southern mixed chaparral and approximately 3.47 acres of coastal sage-chaparral scrub habitat will occur as a result of the proposed project. Recommended mitigation measures include the placement of 7.93 acres of coastal sage-chaparral scrub and 19.32 acres of southern mixed chaparral in open space. An additional 1.51 acres of coastal sage-chaparral scrub and 0.19 acres of southern mixed chaparral are included within the RPO wetlands and buffer.

Implementation of these mitigation measures will reduce impacts to below a level of significance.

2.0 INTRODUCTION

The proposed project is a subdivision and residential development of 76.4 gross acres into four parcels plus a remainder parcel. The proposed project is for residential land use. As part of the project, residential development including building pads, roads, and utilities would be graded and excavated. Off-site improvements are not proposed.

The 76.4-acre project area is located in southeastern portion San Diego County within the Community of Barrett Junction in the County of San Diego (Figure 1). It is located south of Barrett Lake and south east of Barrett Junction itself. The proposed subdivision is located at 21321 Barrett Smith Road. It is divided by the right-of-way for State Route 94. The project is located in the western ½ of the southwest quarter of Section 16 in Township 18 South, Range 3 East. The project is limited to the 76.4-acre proposed project area and does not include off-site improvements. The project area is shown on the Tecate USGS 7.5' Quadrangle (Figure 2).

Topography, Soils, Land Use

The project area is located in the southern portion of San Diego County within the foothills and interior valleys of the region. The property includes a slope near the base of Tecate Peak. The northern portion of the project also includes a large knoll and north/south trending ridge. Potrero Creek flows just outside the property along its northern edge. Elevations range from 900 to 1,950 feet above mean sea level (MSL).

The soils on the property include stony land, Cieneba very rocky coarse sandy loam, Cieneba-Fallbrook rocky sandy loam, and acid igneous rocks (Bowman 1973). The northern portion of the property is mapped as stony land (Bowman 1973). Stony land occurs at the base of steep rocky slopes and consists of secondary material redeposited from the upper slopes. It is strongly sloping to very steep and consists of many stones, boulders, and cobblestone and some finer material. In many places there are large boulders 3 to 6 feet in diameter on the surface.

A very small area of Cieneba very rocky coarse sandy loam is present along the northeastern edge of the property. Cieneba series soils are excessively drained soils formed in material weathered in place from granitic rock. Cieneba very rocky coarse sandy loam is steep to very steep, has rock outcrops on about 20 percent of the surface and very large granodioritic boulders on about 30 percent. It is only 5 to 15 inches deep over hard granodiorite (Bowman 1973).

Cieneba-Fallbrook rocky sandy loam consists of a mixture of both Cieneba and Fallbrook soils derived from granitic rock. Rock outcrops cover about 5 percent of the surface and large boulders about 10 percent. Soils are about 6 to 10 inches thick over bedrock or clay subsoil (Bowman 1973).

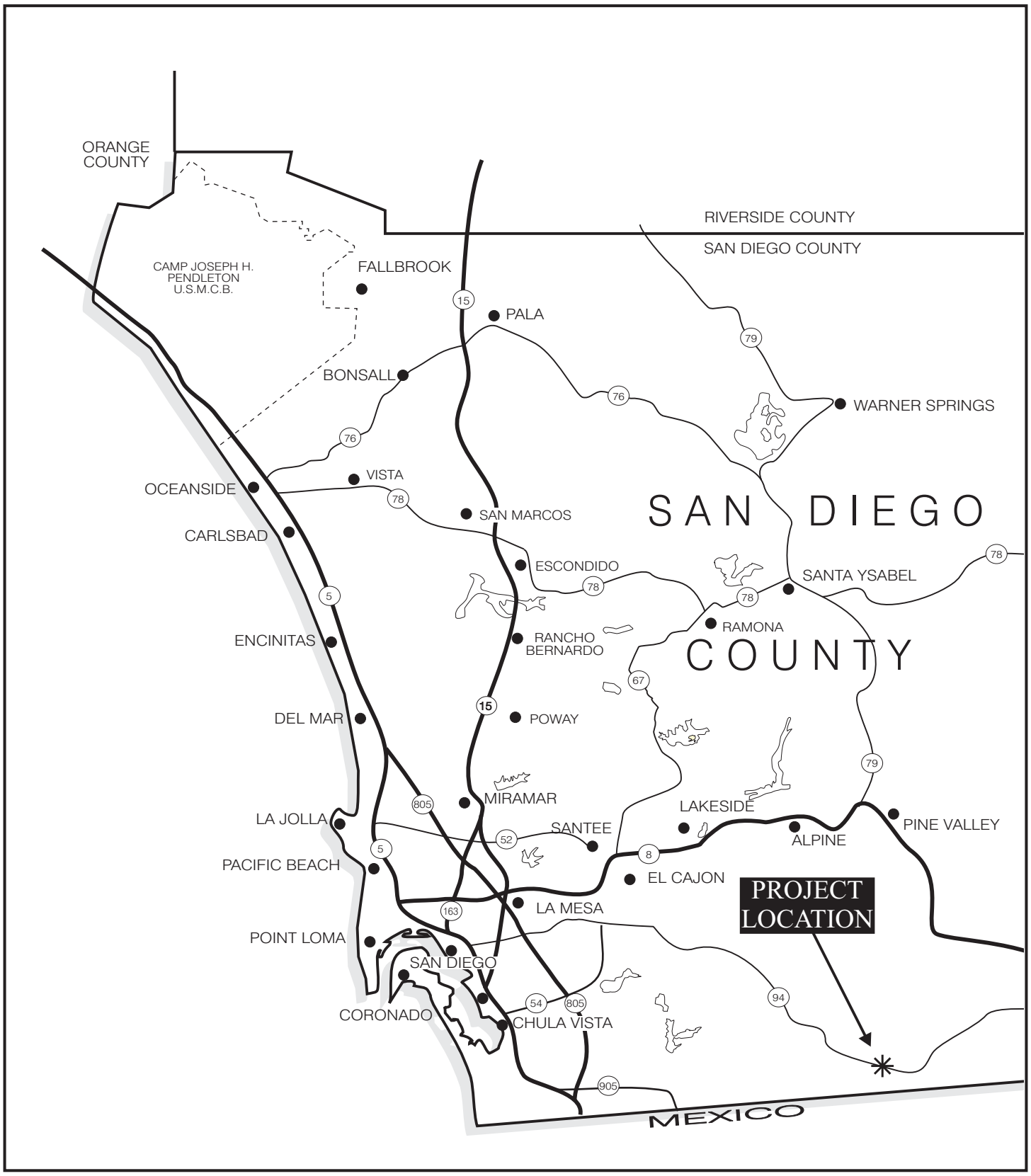
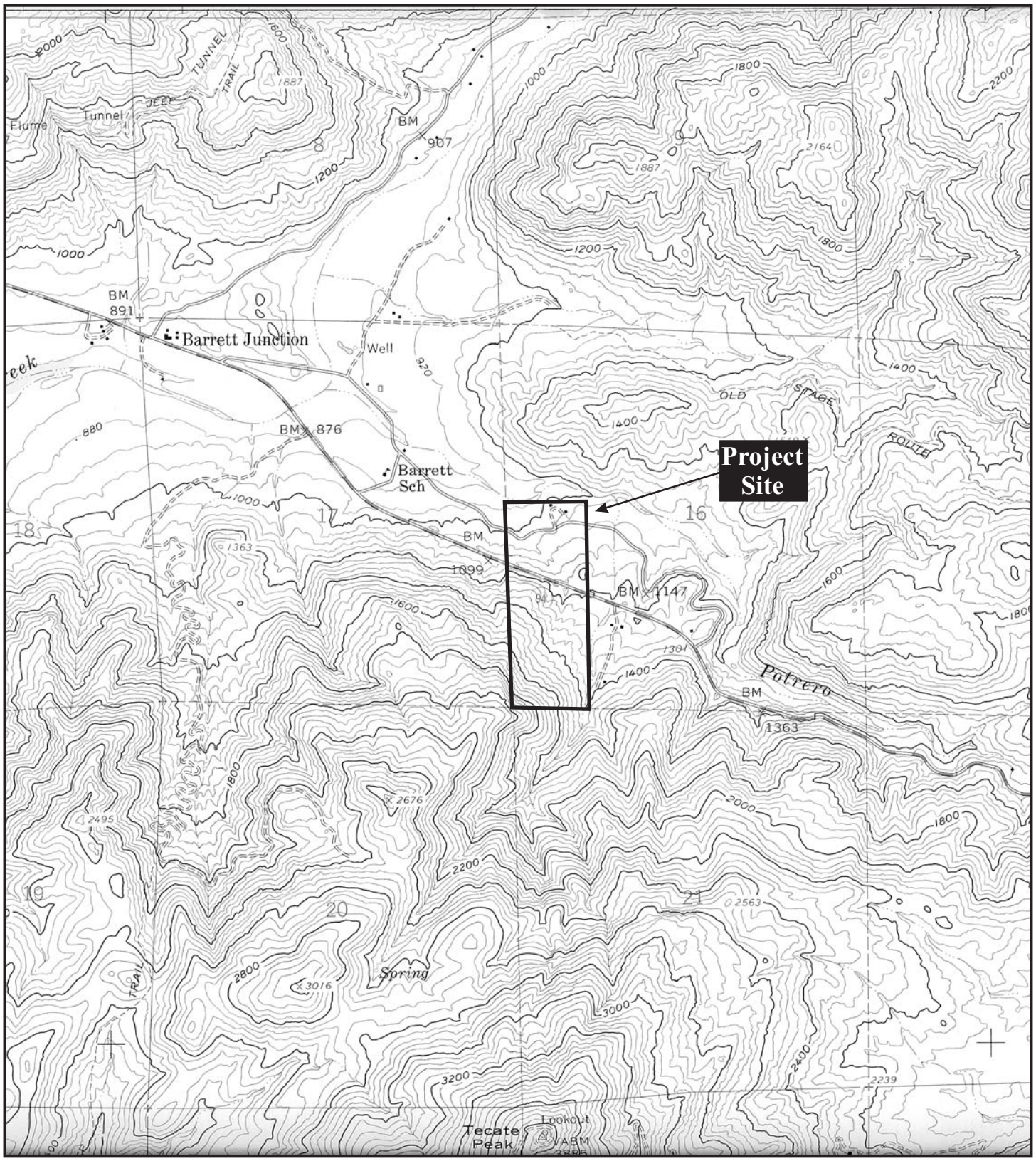


Figure 1
Regional Location Map



SOURCE: USGS 7.5' Imperial Beach Quadrangle

Figure 2
Project Location

The highest portion of the project area, in the southwestern corner of the property, is mapped as acid igneous rock land (Bowman 1973). This is rough steeply sloping broken terrain. Large boulders and granitic rock outcrops cover 50 to 90 percent of the total area. Soil material between these rocks is loam to loamy course sand in texture and is very shallow over decomposed granite.

Potrero Creek flows from east to west just outside the project to the north. This creek probably provides the major source of fresh water to the area but a smaller seasonal tributary drainage flows north through the central portion of the project.

The property is largely undeveloped but includes one residence in the northeastern portion of the property and several graded roads and a water tank and well.

Regional Setting

The proposed project is located outside the Multiple Species Conservation Program (MSCP). The site is located in an area of rural residential interspersed with undeveloped lands.

3.0 SURVEY METHODOLOGY

The site was surveyed on foot and habitat mapped (Figure 3- Map Pocket). Mapping was performed following the Biological Resources Mapping Requirements (County 2002). Wildlife species were identified directly by sight or by vocalizations, and indirectly by scat, tracks, or burrows. Field notes were maintained throughout the surveys and species of interest were mapped. Surveys focused on sensitive plant and wildlife species and all species observed were noted. The presence or absence of suitable habitat for sensitive species was also identified. The primary focus of the survey was to document and map the size, location, and general quality of all habitat types and the presence or potential presence of any sensitive resources (plant or wildlife) on-site.

Table 1
Surveys performed on the Pijnenburg Property

Date	Time	Survey	Temperature (ºF)	Sky	Wind (mph)	Observers
1/23/04	12:00 – 15:30	General Botany	65º	Clear	0-5	AP
1/30/04	9:30 – 11:00	General Botany	60º	Overcast	0-5	RC, AP
3/6/04	9:20 – 15:50	Quino Sensitive Plants	63 to 68°	Clear	0-7	DS
3/14/04	9:15 – 15:25	Quino	67 to 78°	Overcast to clear	0-7	DS
3/19/04	9:25 – 13:35	Quino	65 to 68°	Partly cloudy	0-7	DS
3/27/04	9:15 – 14:20	Quino	64 to 68°	Clear	1-5	DS

Table 1 Surveys performed on the Pijnenburg Property						
Date	**Time**	**Survey**	**Temperature (°F)**	**Sky**	**Wind (mph)**	**Observers**
4/04/04	10:00 – 16:30	Quino RPO Wetland	64 to 65°	Partly cloudy	1-5	DS, RC
4/10/04	9:35 – 14:45	Quino	63 to 70°	Clear	0-5	DS
4/15/04	10:15-–17:25	General Wildlife	69 to 75°	Clear	1-5	JH
4/18/04	9:00 – 13:50	Quino	63 to 68°	Partly cloudy	1-3	DS
4/25/04	9:05 – 14:10	Quino Sensitive Plants	67 to 80°	Clear	0-7	DS
4/27/04	18:45 – 20:45	Arroyo Toad Survey	83 to 77°	Clear	0-3	RC, JH, GB
10/11/04	8:30 – 14:50	Sensitive Plant and General Wildlife	63 to 80°	Clear	0-10	JH
1/30/05	12:30 – 14:30	RPO Review	66°	Clear	0-5	RC

AP= Andy Pigniolo, RC = Robin Church, DS=Darren Smith, JH=Jane Higginson, GB= Gale Bustillos

Nomenclature for this report conforms to Hickman (1993), Holland (1986) and Oberbauer (1996) for plant communities and habitat types, American Ornithological Union (AOU 1982) for birds, Jennings (1983) and Stebbins (1985) for reptiles and amphibians, Jones (1992) for mammals, and Powell (1979) for insects.

4.0 RESULTS

The following discussion summarizes the existing biological resources on-site including habitats, vegetation and wildlife. Habitats are depicted on Figure 3.

4.1 Vegetation

Habitat descriptions are based on the County of San Diego's Biological Mapping Requirements (County 2002) and Terrestrial Vegetation Communities in San Diego County based in Holland's Descriptions (Oberbauer 1996), however, it has been shown that habitats on the project sites in San Diego County are often not pristine and rarely fit into one description. Therefore the best-fit definition based on the County's current descriptions and dominant plant species has been applied. Two vegetation types occur within the project site, coastal sage-chaparral scrub and southern mixed chaparral. In addition, A Resource Protection Ordinance (RPO) wetland occurs onsite. The habitats and wetland limits are depicted in Figure 3. A complete list of plant species observed on-site is included in Appendix A.

Coastal Sage-Chaparral Scrub (Habitat Code 37G00)

Coastal sage-chaparral scrub covers approximately 27.54 acres of the site and consists of a mix of sclerophyllous, woody chaparral species and drought deciduous, sage scrub species. Many of these areas are on drier more exposed east facing slopes. The areas are dominated by coastal sage species but include a mix of chaparral species. Major species include Laurel Sumac (*Malosma laurina*), Coastal Sagebrush (*Artemisia californica*), Deerweed (*Lotus scoparius*), White Sage (*Salvia apiana*), California Buckwheat (*Eriogonum fasciculatum*), and Chamise (*Adenostoma fasciculatum*). Other species include mission manzanita (*Xylococcus bicolor*), yellow bush penstemon (*Keckiella antirrhinoides* var. *antirrhinoides*), Golden-yarrow (*Eriophyllum confertiflorum*), Broom Matchweed/snakeweed (*Gutierrezia sarothrae*), and San Diego Sunflower (*Viguiera laciniata*).

Southern Mixed Chaparral (Habitat Code 37121)

Undisturbed southern mixed chaparral covers approximately 45.99 acres of the site and consists of moderate-statured stands (between 1.5 and 3 meters) of a variety chaparral species. Chamise (*Adenostoma fasciculatum*) is dominant but several other species are common: mission manzanita (*Xylococcus bicolor*), scrub oak (*Quercus berberidifolia*), holly-leaf cherry (*Prunus ilicifolia*), San Diego mountain-mahogany (*Cercocarpus minutiflorus*), woolly-leaved ceanothus (*Ceanothus tomentosus*), yellow bush penstemon (*Keckiella antirrhinoides* var. *antirrhinoides*), and honeysuckle (*Lonicera subspicata*).

Developed (Habitat Code: 12000)

Approximately 2.87 acres of developed habitat occurs onsite. This habitat consists of the existing residence and associated improvements and Barrett Smith Road.

Resource Protection Ordinance (RPO) Wetland

A RPO wetland delineation was performed to identify drainages onsite that meet the criteria established by the RPO to define County wetlands. The criteria for the delineation of RPO wetlands is discussed in Section 5.0, Regulatory Requirements, below. The limits of the RPO wetlands are depicted on Figure 3.

Rock Outcrops

Rock outcrops are considered a unique microhabitat by the County. Numerous rock outcrops occur onsite. Rock outcrops add diversity to the vegetation communities by providing a discrete ecological niche for species not found elsewhere in the surrounding habitat. Rock outcrops also provide cover and potential nesting cavities for several wildlife species. Some reptile species are attracted to the sun-warmed surfaces of the rocks, and birds use boulders as perches and vantage points.

4.2 Wildlife

A total of fifty-six wildlife species were identified onsite. These included twenty-seven invertebrate species, three reptile species, nineteen bird species, and seven mammal species. A complete list of wildlife species observed on-site is included as Appendix B.

Invertebrates

The dominant invertebrate species observed onsite were butterflies. Of the twenty-seven invertebrates observed onsite, fifteen were butterflies. Common butterflies observed onsite include the Sara's orangetip (*Anthocharis sara*), Behr's metalmark (*Apodemia mormo virgulti*), funereal duskywing (*Erynnis funeralis*) and southern blue (*Glaucopsyche lygdamus*). In addition, ants, bees, ladybugs, crickets, crane flies and dragonflies were observed onsite.

Reptiles

Side-blotch lizards (*Uta stansburiana*), western fence lizards (*Sceloporus occidentalis*), and a southern alligator lizard (*Gerrhonotus multicarinatus*) were observed onsite. Other species probably occur however were not observed.

Birds

Birds that would typically occur in the habitats onsite were observed including but not limited to: Bewick's wren (*Thrymanes bewickii*), California towhee (*Pipilo* crissalis), spotted towhee (*Pipilo erythrophthalmus*), scrub jay (*Aphelocoma californica*), wrentit (*Chamaea fasciata*), red-tailed hawk (*Buteo jamaicensis*), yellow-rumped warbler (*Dendroica coronata*) and blue-gray gnatcatcher (*Polioptila caerulea*). In addition, a turkey vulture was observed overhead (*Cathartes aura*).

Mammals

Mammals were primarily detected indirectly by the presence of tracks, scat, nests or burrows. Mammals detected onsite include but are not limited to coyote (*Canis latrans*), desert cottontail (*Sylvilagus auduboni*), pocket gopher (*Thomomys bottae*), domestic cat (*Felis* sp.), and mule deer (*Odocoileus hemionus*).

4.3 Wildlife Corridors

The primary wildlife corridor within the area would be associated with Pootrero Creek which is located to the north of the project. Potrero creek may serve as both a local and regional wildlife corridor.

4.4 Sensitive Resources

Sensitive or special interest plant and wildlife species and habitats are those which are considered rare, threatened, or endangered within the state or region by local, state, or federal resource conservation agencies. Sensitive habitats, as identified by these same

groups, are those which generally support plant or wildlife species considered sensitive by these resource protection agencies or groups. Sensitive species and habitats are so called because of their limited distribution, restricted habitat requirements, particular susceptibility to human disturbance, degradation due to development or invasion by non-native species, or a combination of all of these factors.

In addition to RPO, the following were used in the determination of sensitive biological resources: U.S. Fish and Wildlife Service (USFWS) (USFWS 2001); California Department of Fish and Game (CDFG) (CDFG 1999, 2000 and 2001); and California Native Plant Society (CNPS 2003). An explanation of the sensitivity codes used in this report are included in Appendix E.

Applicable Resource Conservation Plans and Ordinances

In San Diego County, regulations have been adopted which define and provide protection to certain types of sensitive biological resources as follows:

Resource Protection Ordinance (RPO)

The purpose of the RPO is to protect sensitive resources and prevent their degradation and loss. The sensitive resources protected by the RPO include wetlands, wetland buffer areas, and sensitive habitat lands, which are defined as follows:

> "Wetland" areas include lands which are transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or where the land is covered by water. All lands having one or more of the following attributes are “wetlands”:
>
> a) At least periodically, the land supports predominantly hydrophytes (plants whose habitat is water or very wet places);
> b) The substratum is predominantly undrained hydric soil; or
> c) The substratum is nonsoil and is saturated with water or covered by water at some time during the growing season of each year.
>
> "Wetland buffer" areas include lands which provide a buffer area of an appropriate size to protect the environmental and functional habitat values of the wetland, or which are integrally important in supporting the full range of the wetland and adjacent upland biological community.
>
> "Sensitive habitat lands" include those which support unique vegetation communities, or the habitats of rare or endangered species or sub-species of animals or plants, including the area which is necessary to support a viable population of any of these species in perpetuity, or which is critical to the proper functioning of a balanced natural ecosystem or which serves as a functioning corridor.

4.4.1 Sensitive Habitats

Southern mixed chaparral, and coastal sage –chaparral scrub would be considered sensitive habitat lands within the RPO. In addition, the RPO wetlands, discussed below would be considered sensitive.

Resource Protection Ordinance Wetland

Wetlands are protected by the County, CDFG, ACOE, RWQCB, USFWS, and EPA. Wetland habitats, in general, are considered sensitive biological resources because they have been dramatically reduced in San Diego County and across the nation and typically represent wetlands. Due to the regional and national loss of wetland habitat, resource agencies have a "no net loss policy" for wetlands. Wetland habitat is important because it has high levels of food and nutrients, high wildlife diversity, and it is a valuable water source in the arid climate of Southern California. This habitat's sensitivity and its ultimate reduction is evidenced by the large number of declining bird species closely associated with, or dependent on this habitat type for reproduction and ultimate success.

A RPO wetland delineation was performed to delineate the limits of the drainage that meet the criteria established by RPO. The limits of this boundary are indicated on Figure 3 (Map Pocket).

4.4.2 Sensitive Plants

Sensitive or special interest plant species are those which are considered rare, threatened, or endangered within the state or region by local, state, or federal resource conservation agencies. Sensitive plant species are so called because of their limited distribution, restricted habitat requirements, or particular susceptibility to human disturbance, or a combination of these factors. Sources used for the determination of sensitive plant species include: CDFG (1999) and the California Native Plant Society Electronic Inventory (CNPS 2003).

Sensitive plant surveys were performed at the same time as the general biology surveys and Quino checkerspot surveys. Since both require walking intensive transects all plants observed during the surveys were noted. No rare, threatened, or endangered plant species were observed on-site. Six sensitive plant species: Rush chaparral-star (*Machaeranthera juncea*), Southern Mountain Misery (*Chamaebatia australis*), Tecate Cypress (*Cupressus forbesii*), Tecate tarplant (*Deinandra floribunda*), San Diego sunflower (*Viguiera laciniata*) and Campo Pea (*Lathyrus splendens*) were observed onsite. These species are discussed below. Thirty-five sensitive plant species are known from the area. Sensitive plant species with the potential to occur on-site are discussed in Appendix C.

Deinandra floribunda (Tecate tarplant)

Deinandra floribunda is a fall-flowering annual herb with deep yellow flowers, sticky leaves, buds and stems. It is a County List A species (rare in California and elsewhere) with a R-E-D ranking of 2-2-2. This species can occur in valleys and arroyos in the

interior and southern chaparral. Eleven individual plants were found in coastal sage-chaparral mix habitat in bare earth on the south side of Barrett Smith Road (Figure 3).

Machaeranthera juncea (Rush chaparral-star)

Machaeranthera juncea is a perennial herb with yellow flowers on elongated branches. It is a County list D and CNPS List 4 species (limited distribution) with a R-E-D ranking of 1-1-1. This species can occur in chaparral and coastal scrub habitats; the northwestern extent of its distribution is cismontane San Diego County. Approximately 150 individual *M. juncea* plants occur within drier shallow soil areas in the southern and eastern portions of the site (Figure 3).

Chamaebatia australis (Southern mountain misery)

Chamaebatia australis is an evergreen shrub on County list D as uncommon and of limited distribution. This species is on CNPS List 4 species (limited distribution) with a R-E-D ranking of 1-2-1. It occurs in chaparral, preferring gabbroic or metavolcanic soils. *Chamaebatia australis* occurs sporadically with appropriate geologic conditions in Los Angeles, San Diego County, and northern Baja California. This species is sensitive to development and agricultural projects. A patch of this species with less than 200 individuals is present on the shaded side of a ridge in the southeastern portion of the property within the southern mixed chaparral community (Figure 3).

Cupressus forbesii (Tecate cypress)

Cupressus forbesii is a low evergreen tree that occurs in chaparral or in dense often largely monotypic stands. It is a County list A and CNPS List 1B species (rare or threatened in California and elsewhere) with a R-E-D ranking of 3-3-2. *Cupressus forbesii* occurs in stands on the nearby Tecate Peak and in the San Ysidro Mountains. It is know from fewer than five occurrences. It is mainly threatened by alteration of fire regimes. While most stands are on higher slopes, Tecate Cypress sometimes grows near moister drainages in lower elevations. This is the case in the project area where less than 5 individuals are growing in coastal sage-chaparral scrub along the southern margin of Potrero Creek along the northern edge of the project.

Viguiera laciniata (San Diego sunflower)

Viguiera laciniata, is a low scrub that occurs in chaparral and coastal scrub habitat. It is a County list D and CNPS List 4 species (limited distribution) with a R-E-D ranking of 1-2-1. *Viguiera laciniata* is locally common but of limited distribution due to development in coastal and foothill areas where it occurs. This species was distributed in patches within the coastal sage-chaparral scrub community within project area with roughly 150 individual plants present.

Lathyrus splendens (Campo pea)

Lathyrus splendens is a climbing perennial herb that occurs in chaparral. It is a County list D and CNPS list 4 species (limited distribution) with a R-E-D ranking of 1-1-2. This

species occurs in the interior foothills at elevations ranging from 200-1525 meters. Approximately 20 individuals of this species were observed onsite.

4.4.3 Sensitive Animals

Sensitive or special interest wildlife species and habitats are those which are considered rare, threatened, or endangered within the state or region by local, state, or federal resource conservation agencies. Sensitive species are so called because of their limited distribution, restricted habitat requirements, or particular susceptibility to human disturbance, or a combination of these factors. Sources used for the determination of sensitive biological resources include: USFWS (USFWS 2001), CDFG (CDFG 2000 and 2001). Additional species receive federal protection under the Bald Eagle Protection Act and the Migratory Bird Treaty Act and Convention for the Protection of Migratory Birds and Animals.

The CDFG also lists species as threatened or endangered, or candidates for listing as threatened or endangered. Lower sensitivity animals may be listed as "species of special concern" (CDFG 2000). The CDFG further classifies some species under the following categories: "fully protected", "protected furbearer," "harvest species," "protected amphibian," and "protected reptile." The designation "protected" indicates that a species may to be taken or possessed except under special permit from the CDFG; "fully protected" indicates that a species can be taken only for scientific purposes. The designation "harvest species" indicates that take of the species is controlled by the state government.

No rare, threatened, or endangered animal species were observed on-site. Two sensitive species, the turkey vulture (*Cathartes aura*) and mule deer (*Odocoileus hemionus*) were observed onsite. These species are discussed below.

Turkey Vulture (*Cathartes aura*)

The turkey vulture is a County sensitive species. According to Unitt (1984), this species is a fairly common to common spring and fall migrant, uncommon to locally common winter visitor and rare to uncommon summer resident of San Diego County. Five turkey vultures were observed overhead during the wildlife survey.

Mule Deer (*Odocoileus hemionus*)

The southern mule deer is a San Diego County sensitive species. It occurs in many habitats except in deserts, intensively farmed areas without cover, or urbanized areas. It prefers early to intermediate successional stages of most forest, woodland, and brush habitats. Optimal habitat has a mosaic of various-aged vegetation that provides woody cover, meadow, shrubby openings, and water. Fawning occurs in moderately dense shrublands, woodlands, dense herbaceous stands, and riparian habitats with available water and forage (Zeiner et al 1990). It may be resident or migratory. Mule deer pellets were found in costal sage-chaparral scrub habitat onsite, and the property owners report having seen them.

Thirty-eight sensitive species with the potential to occur onsite are discussed in Appendix D. Of the thirty-eight sensitive species with the potential to occur onsite, fourteen have a high potential to occur, and eleven have a moderate potential to occur. The species with a high potential to occur are western spadefoot toad (*Scaphiopus hammondii*), coastal rosy boa (*Charina trivirgata roseofusca*), coastal western whiptail (*Cnemidophorus tigris*), coast patch-nosed snake (*Salvadora hexalepsis virgultea*), northern red diamond rattlesnake (*Crotalus ruber ruber*), orange-throated whiptail (*Cnemidiphorus hyperythrus*), San Diego banded gecko (*Coleonyx variaegatus abbotti*), San Diego horned lizard (*Phrynosoma coronatum blainvillei*), Dulzura California pocket mouse (*Chaetodipus californicus femoralis*), Greater western mastiff bat (*Eumops perotis californicus*), mountain lion (*Felis concolor*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), ringtail (*Bassariscus astutus*), and Yuma myotis (*Myotis yumanensis*). The species with a moderate potential to occur onsite include San Diego ringneck snake (*Diadophus punctatus similes*), silvery legless lizard (*Anniella pulchra pulchra*), big free-tailed bat (*Nyctinomops macrotis*), long-eared myotis (*Myotis evotis*), pallid bat (*Antrozous pallidus*), small-footed myotis (*Myotis ciliolabrum*), southern grasshopper mouse (*Onychomys torridus ramona*), Townsend's western big-eared bat (*Corynorhinos townsendii*), Bell's sage sparrow (*Amphispiza belli belli*), golden eagle (*Aquila chrysaetos canadensis*), and loggerhead shrike (*Lanius ludovicianus*). All of these species except the California gnatcatcher, San Diego ringneck snake, and mountain lion, ringtail are federal and/or state species of concern. The mountain lion is a protected species by CDFG. The San Diego ringneck snake, and ringtail, are county sensitive species. One species, Thornes hairstreak, is currently a federal species of concern. This species is discussed below:

Thornes Hairstreak (*Mitoura thornei*)

This species is indigenous to San Diego County. Presently the only known occupied location for this species is the Otay Mountain area in association with it's host plant, the Tecate Cypress (*Cupressus forbessii*) (Faulkner and Klein 2004). They occupy interior cypress forest where there host plant occurs. It requires mature cypress but exact age of host plant requirement is unknown. The Tecate cypress onsite are approximately 8-10 years old. There is a low potential for this species to occur onsite.

The California gnatcatcher is a federal listed threatened species. Two additional federal and/or state listed species have a low potential to occur onsite. These include the Quino checkerspot butterfly (*Ephydryas editha quino*) and arroyo southwestern toad (*Bufo micrposcaphus californicus*). Each of these species is discussed below.

Quino Checkerspot Butterfly (*Euphydryas editha quino*)

Status: Federally listed as Endangered.

Protocol presence/absence surveys for the Quino were performed by Darren Smith (Permit TE-007628) and Robin Church (TE-812206-3). A complete copy of the 45-Day Report for the Quino Checkerspot survey on the site is included as Appendix F and summarized here. Eight surveys were performed within approximately 33 acres of suitable habitat following the Year 2002 survey protocol for this species. Surveys

consisted of meandering transects within all of the open native vegetation onsite with proportionately greater time spent in areas supporting nectar plants, known and potential host plants and on the hilltop north of Highway 94. Areas supporting large populations of dwarf plantain (*Plantago erecta*) were visited twice per survey. Host plant and nectar sources for this species occur onsite. No Quino were observed onsite and the survey report concludes that the site is unlikely to support this species.

Arroyo southwestern toad (*Bufo micrposcaphus californicus*)

Status: Federally listed as Endangered, State Species of Special Concern

The arroyo southwestern toad was listed as federally endangered in December 1994. This species is a small toad (2 to 3 inches), light greenish gray or tan with warty skin and dark spots. This species is restricted to rivers that have shallow, gravelly pools adjacent to sandy terraces. Breeding occurs on large streams with persistent water from March to mid-June. Eggs are deposited and larvae develop in shallow pools with minimal current and little or no emergent vegetation and with sand or pea gravel substrate overlain with flocculent silt. After metamorphosis (June or July), the juvenile toads remain on the bordering gravel bars until the pool no longer persists. Juvenile and adults forage for insects on sandy stream terraces that have nearly complete closure of cottonwoods, oaks, or willows and almost no grass and herbaceous cover at ground level. Adult toads excavate shallow burrows on the terraces where they shelter during the day when the surface is damp or during longer intervals during the dry season. (Federal Register 1994).

A habitat assessment was conducted for the arroyo southwestern toad on April 27, 2004 by Gale Bustillos, Robin Church, and Jane Higginson. It was determined that the drainages onsite are ephemeral and too steep, and as such they do not provide suitable habitat for any of the life stages of the arroyo southwestern toad. Potrero Creek, a perennial stream, runs adjacent to the north boundary of the site. The stretch of the stream adjacent to the site supports abundant vegetative cover, and the streambed is steep-sided with large rocks and boulders in the substrate. It does not have shallow pools or sandy terraces, and therefore does not provide suitable habitat for the arroyo southwestern toad. No arroyo toads were observed the night of the habitat assessment. There is a low potential for this species to occur onsite.

California Gnatcatcher (*Polioptila californica*)

Status: Federally listed as Threatened, State Species of Concern

The California gnatcatcher (CAGN), a Federally Threatened species and California Species of Concern, is a small gray songbird that is a resident of scrub-dominated communities in southwestern California from the Los Angeles Basin through Baja California, Mexico. California gnatcatcher populations have declined due to extensive loss of Diegan coastal sage scrub habitat to urban and agricultural uses. Coastal sage scrub habitat exists onsite. However, the species was not detected during any of the surveys. There is a low potential for this species to occur within the coastal sage-chaparral scrub onsite. The site is east of the known range for the species.

5.0 REGULATORY REQUIREMENTS PERTAINING TO WETLANDS

The limits of jurisdiction for each agency is also discussed below. Several ephemeral drainages occur onsite however unless they are discussed below within each of the agencies they were deemed non-jurisdictional as a result of not meeting the criteria.

Army Corps of Engineers (ACOE) – Clean Water Act

Pursuant to Section 404 of the Clean Water Act, any on-site wetlands and waters of the U.S., would be subject to permit provisions regulating activities within their boundaries. These provisions are enforced by the ACOE, as well as the EPA, with technical input from the USFWS. Three factors are considered in the designation of wetlands: the presence of hydrophytic vegetation, hydric soils, and site hydrology. According to the latest ACOE methodology, all three wetland indicators must be present to make a jurisdictional ruling (Environmental Laboratory 1987). Areas indicated as wetlands by all three factors during the rainy season may lack the indicators of hydrology and/or vegetation during the dry season, or the vegetation may have been altered or removed through human disturbance. Such areas may still be regarded as wetlands by resource agencies.

In addition, the ACOE has jurisdiction over "waters of the United States". Waters of the United States are defined in 33 CFR part 328 (referred to as "waters"). The lateral limits of the jurisdiction of waters maybe divided into three categories, territorial seas, tidal waters and non-tidal waters. 33 CFR part 328.3 provides the definition of waters of the United States as follows:

(a) The term *waters of the United States* means

(1) all waters which are currently used, or were used in the past, or maybe susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(2) All interstate waters including interstate wetlands;

(3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce, including any such waters:

(i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

(ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

(iii) Which are or could be used for industrial purpose by industries in interstate commerce;

(4) All impoundments of waters otherwise defined as waters of the United States under the definition;

(5) Tributaries of waters identified in (a) (1) through (4) of this section;

(6) The territorial seas
(7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) (1) through (6) of this section.

Waste treatment systems, including treatments of ponds or lagoons designed to meet the requirements if CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition) are not waters of the United States.

(8) Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding the CWA remains with the Environmental Protection Agency (EPA).

(b) The term *wetlands* means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.
(c) The term *adjacent* means bordering, contiguous or neighboring. Wetlands separated from other waters of the United States by man made dikes or barriers, natural river berms, beach dunes and the like are "adjacent wetlands."
(d) The term *high tide line* means the line of intersection of the land with the water's surface to the maximum height reached by a rising tide……
(e) The term *ordinary high water mark* means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.
(f) The term *tidal waters* means those waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun….

The limits of jurisdiction in non-tidal waters is defined in 30 CFR part 328.4 (c). When non-tidal waters occur in the absence of adjacent wetlands, the jurisdiction extends to ordinary high water mark. Based on the above definition of waters of the United States and limits of jurisdiction, Waters of the U.S. occur onsite and would be located at the same location as the RPO wetland line identified on Figure 3.

California Department of Fish and Game – Streambed Alteration Program

The CDFG regulates wetlands under Section 1601/1603 of the California Fish and Game Code through their Streambed Alteration Agreement Program. Any alteration of any stream course within the State of California requires a Streambed Alteration Agreement from the CDFG. Section 1601 pertains to public projects where section1603 applies to private projects and specifically states: "It is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of

any river, stream or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity…"

A stream is defined by the California Code of Regulations (14 CCR 1.72) as a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic wildlife. This includes watercourses having a surface or subsurface flow that supports or has supported riparian habitat.

The limits of CDFG jurisdiction are defined in the code (Section 1601/1603) as the bed, channel, or bank of any river, stream or lake designated by the department in which there is at any time existing fish or wildlife resource or from which these resources derive benefit ….

The CDFG jurisdiction would be larger than the RPO wetlands and ACOE wetlands onsite. The CDFG jurisdiction would extend to the limits of the top of bank. In addition, the CDFG would take jurisdiction over the ephemeral drainages onsite.

County of San Diego Resource Protection Ordinance

The County of San Diego Resource Protection Ordinance defines wetlands under Article II, item 16. as: "All lands which are transitional between terrestrial and aquatic where the water table is usually at or near the surface or where the land is covered by water. All lands having one or more of the following attributes are 'wetlands":

a. At least periodically, the land supports predominately hydrophytes;
b. The substratum is predominantly undrained hydric soils; or
c. The substratum is nonsoil and is saturated with water or covered by water at some time during the growing season each year.

The Resource Protection Ordinance wetlands were mapped using the presence of any of one criteria listed above. The majority of the length of creek actually is devoid of hydric vegetation therefore hydrology was used to identify RPO wetland limit. The occasional mulefat and cottonwood occur within the drainage, however no portion is dominated by hydrophytic vegetation. The ordinary high water mark or assumed limits of the one year flood were used to delineate the limits of the RPO wetland. The ordinary high water mark was determined to be a bench or bank that occurred within the outer bank. The limits are depicted on Figure 3 (Map Pocket).

6.0 ANTICIPATED PROJECT IMPACTS

This section addresses potential direct, indirect, and cumulative impacts to biological resources that would result from implementation of the proposed project, and provides analyses of significance for each potential impact.

Direct Impacts are immediate impacts resulting from the permanent removal of habitat. For purposes of this assessment, all biological resources within the limits of impacts identified on Figure 3 are assumed impacted. The areas included within proposed open space are to off-set impacts. The remainder of the site is deemed impact neutral due to the fact that no land disturbing activities are proposed for those areas.

Indirect Impacts result from changes in land use adjacent to natural habitat and primarily result from adverse "edge effects;" either short-term indirect impacts related to construction or long-term, chronic indirect impacts associated with urban development. During construction of the project, short-term indirect impacts include dust and noise which could temporarily disrupt habitat and species vitality or construction related soil erosion and run-off. Long-term indirect impacts may include intrusions by humans and domestic pets, noise, lighting, invasion by exotic plant and wildlife species, use of toxic chemicals (fertilizers, pesticides, herbicides, and other hazardous materials), soil erosion, litter, fire, and hydrological changes (e.g., groundwater level and quality).

Cumulative Impacts refer to incremental individual environmental effects of two or more projects when considered together. These impacts taken individually may be minor, but collectively significant as they occur over a period of time.

Thresholds of Significance

The evaluation of whether or not an impact to a particular biological resource is significant must consider both the resource itself and the role of that resource in a regional context. Substantial impacts are those that contribute to, or result in, permanent loss of an important resource, such as a population of a rare plant or animal. Impacts may be important locally because they result in an adverse alteration of existing site conditions, but considered not significant because they do not contribute substantially to the permanent loss of that resource regionally. The severity of an impact is the primary determinant of whether or not that impact can be mitigated to a level below significant. Generally, there are three levels of adverse impacts associated with biological resources: significant, locally important, and not significant.

These levels of impacts were applied to the project site and are used below in the discussion of specific potential impacts. Figure 3 details the proposed impact areas.

6.1 Proposed Project and Potential Impacts

The proposed project is a subdivision and residential development of 76.4 gross acres into four parcels plus a remainder parcel. The proposed project is for residential land use. As part of the project, residential development including building pads, roads, and utilities would be graded and excavated. Off-site improvements are not proposed. The project includes onsite open space totaling 28.40 acres. Table 2 identifies the potential impacts as a result of the proposed project.

Table 2 Habitat Acreages and Potential Impacts					
Habitat	**Total Acres**	**Direct Impacts (Grading and Fire Clearing) acres**	**Mitigation Ratio**	**Onsite Conservation (acres)**	**Impact Neutral (acres)**
Coastal Sage-Chaparral Scrub	27.54	3.47	2:1	9.08*	14.99
Southern Mixed Chaparral	45.99	7.20	0.5:1	19.32**	19.47
Developed	2.87	0.47	NA	0	2.40
Total	**76.40**	**11.14**		**28.40**	**36.86**

*1.51 acres of this habitat is part of the RPO wetland and buffer and is considered impact neutral
**0.19 acres of this habitat is part of the RPO wetland and buffer and is considered impact neutral

6.2 Significance of Impacts

The following section discusses the significance of potential impacts to the resources onsite.

Coastal Sage-Chaparral Scrub

Impacts to 3.47 acres of this habitat may occur as a result of grading and fire clearing. This impact would be considered locally important.

Southern Mixed Chaparral

Approximately 7.20 acres of the southern mixed chaparral onsite may be impacted as a result of grading and fire clearing.

Developed

Continued use of the developed portions onsite would not be considered significant.

RPO Wetland and Wetland Buffer

No impacts are proposed to the RPO wetland and buffer.

Sensitive Plant and Wildlife Species

Impacts to San Diego Sunflower may occur as a result of the proposed project. This is a County list D species. Potential impacts animal species observed and with a high and moderate potential to occur onsite would be considered locally important.

Wildlife Corridors

No direct impacts will occur to Potrero creek as a result of the proposed project. The proposed improvements on Parcel 1, the northernmost parcel are one single family residence. The proposed improvements are a minimum of 400 feet from Potrero Creek,

therefore no indirect impacts to the wildlife corridor are anticipated. No significant direct or indirect impacts to the wildlife corridor will occur as a result of the proposed project.

7.0 PROPOSED MITIGATION

Under CEQA, mitigation is required for all significant biological impacts (i.e. impacts within highly constrained areas). In addition, the CDFG 1600 and the ACOE 404 permit process generally require mitigation for the loss of wetland resources. The following mitigation measures are recommendations to offset significant impacts. Recommendations are also given to offset locally important biological impacts. Although mitigation measures are not often required for locally important impacts, local jurisdictions often implement these measures to minimize cumulative impacts within the region.

According to Appendix G of the State CEQA guidelines, the proposed project would have a potentially significant impact to onsite biological resources if it would:

- Have a substantial adverse affect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Resource Protection Ordinance

Under the RPO (discussed above), development of wetlands, wetland buffer areas, and sensitive habitat lands is restricted, as follows:

Within *wetlands*, the RPO restricts uses to aquaculture, scientific research, educational or recreational uses, or wetland restoration, and imposes further limitations which include, in particular, that grading, filling and construction is not permitted.

Within *wetland buffer areas*, the RPO allows uses permitted in wetland areas, plus access paths and other improvements necessary to protect adjacent wetlands.

Under CEQA, mitigation is required for all significant biological impacts. Mitigation, per resource, is discussed below with corresponding level of significance after mitigation.

Coastal Sage-Chaparral Scrub

Impacts to 3.47 acres of coastal sage–chaparral scrub will be mitigated at a 2:1 ratio by placing an open space easement on 6.94 acres of this habitat onsite.

Southern Mixed Chaparral

Impacts to 7.20 acres will be mitigated at a 0.5:1 ratio by placing the 19.32 acres of southern mixed chaparral in an open space easement onsite. The easement should include the some of the sensitive plant species within this habitat in order to avoid impacts to these species in the future.

RPO Wetland and RPO Buffer

The RPO wetlands and buffer will be placed within an open space easement onsite. The easement includes 1.51 acres of coastal sage-chaparral scrub and 0.19 acres of southern mixed chaparral which can not count towards the habitat mitigation requirements.

Sensitive Plant and Wildlife Species

Impacts to San Diego Sunflower and sensitive animal species observed and with a high and moderate potential to occur will be mitigated through the habitat based mitigation as discussed above.

With implementation of the proposed mitigation measures, impacts to biological resources will be mitigated to below a level of significance.

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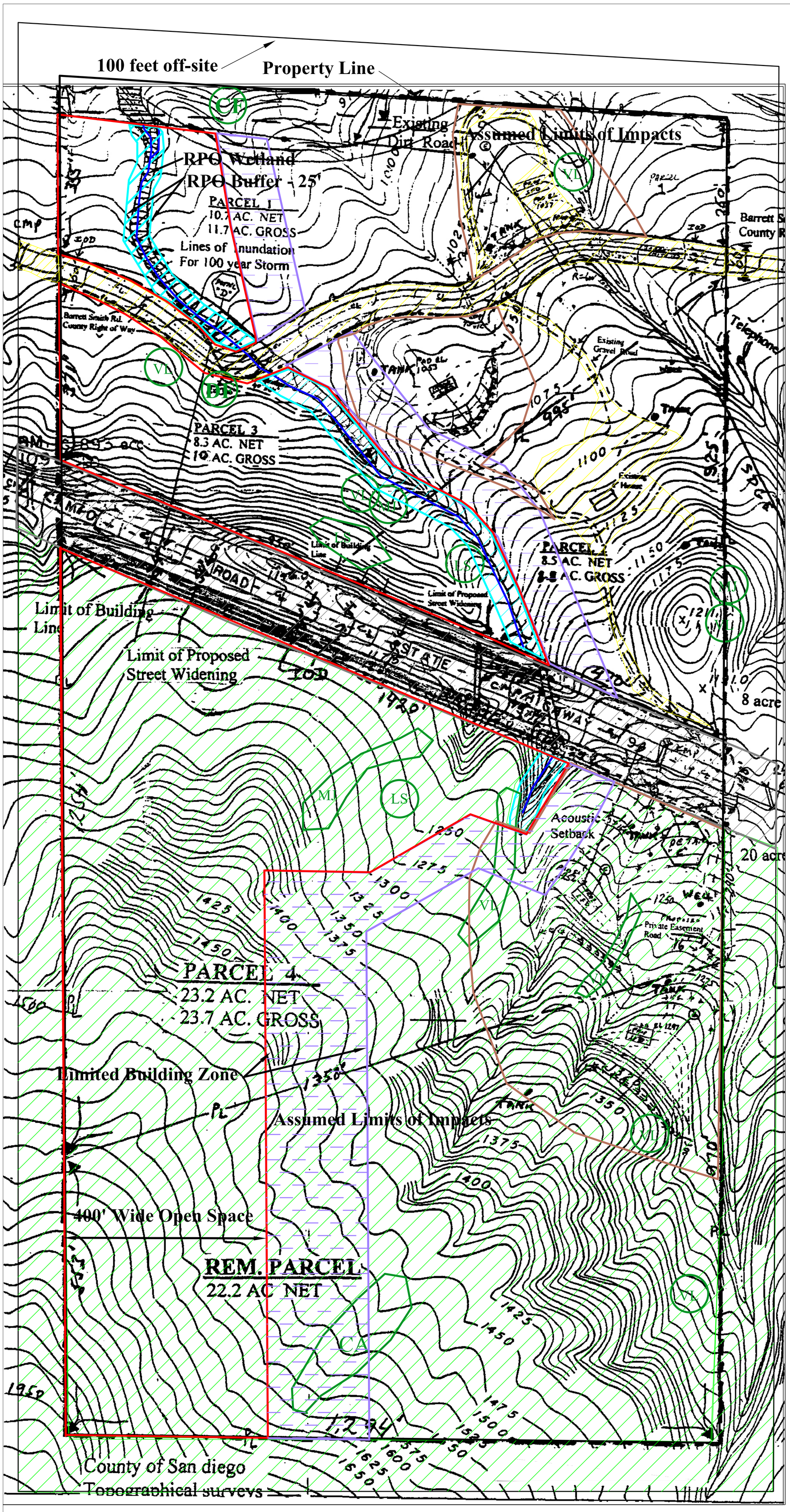
9.0 CERTIFICATION

This report has been prepared by Robin Church, County Certified Biologist and Jane Higginson.



Legend:

- Coastal Sage - Chaparral Scrub - 27.54 acres
  Habitat Code: 37G00
- Southern Mixed Chaparral - 45.9 acres
  Habitat Code: 37121
- Developed - 2.96
  Habitat Code: 12000
- State Route 94
- DF — Tecate Tarplant- *Deinandra floribunda*
- CF — Tecate Cypress - *Cupressus forbessii*
- MJ — Rush-like Bristle Weed - *Machaeranthera juncea*
- LS — Campo Pea - *Lathyrus splendens*
- CA — Southern Mountain Misery - *Chamaebatia australis*
- VL — San Diego Sunflower - *Viguiera laciniata*
- Proposed Open Space Limits
- Limited Building Zone (100'-200')
- RPO Wetland Buffer - 25'
- RPO Wetland
- Assumed Limits of Impacts

Robin Church

Robin Church, County Certified Biologist

NORTH

Scale: 1" = 100'

RC

Biological Consulting

Biological Resources of the Pijnenburg Property - TPM 20778

August 2006

Figure 3

APPENDIX A

PLANTS OBSERVED

APPENDIX A PLANT SPECIES OBSERVED ON THE PIJNENBURG PROPERTY - TPM 20778			
Family Name	**Species Name**	**Common Name**	**Habitat**
	LYCOPODS		
Selaginellaceae	*Selaginella bigelovii*	Bigelow's Spike-moss	CS-CS, SMC
	FERNS		
Pteridaceae	*Aspidotis californica*	California Lace Fern	CS-CS
	Cheilanthes clevelandii	Cleveland's Lip Fern	CS-CS
	Pellaea mucronata var. *mucronata*	Bird's Foot Cliff-brake	CS-CS, SMC
	Pentagramma triangularis ssp. *triangularis*	California Goldenback Fern	CS-CS, SMC
	Pentagramma triangularis ssp. *viscosa*	Silverback Fern	SMC
	CONIFERS		
Cupressaceae	*Cupressus forbesii* **1B 3-3-2 FSC**	Tecate Cypress	SMC
	GNETALES		
Ephedraceae	*Ephedra* sp.	Ephedra	CS-CS
	ANGIOSPERMS: DICOTS		
Anacardiaceae	*Malosma laurina*	Laurel Sumac	CS-CS, SMC
	Rhus ovata	Sugar Bush	SMC
	Toxicodendron diversilobum	Western Poison-Oak	CS-CS
Apiaceae	*Apiastrum angustifolium*	Mock-parsley	CS-CS,, SMC
	Daucus pusillus	Rattlesnake Weed	CS-CS, SMC
Asteraceae	*Ambrosia psilostachya*	Western Ragweed	CS-CS
	Artemisia californica	Coastal Sagebrush	CS-CS, SMC
	Baccharis salicifolia	Mule-fat, Seep-willow	CS-CS
	Baccharis sarothroides	Broom Baccharis	CS-CS, SMC
	Brickellia californica	California Brickellbush	CS-CS, SMC
	**Centaurea melitensis*	Tocalote	CS-CS, SMC
	Chaenactis artemisiifolia	Artemisia Pincushion	CS-CS
	Chaenactis sp.	Pincushion	CS-CS
	Cirsium sp.	Thistle	CS-CS, SMC
	Conyza sp.	Horseweed	CS-CS
	Deinandra floribundra **1B 2-2-2 FSC**	Tecate tarplant	DEV
	Ericameria linearifolia	Interior Goldenbush	CS-CS, SMC
	Eriophyllum confertiflorum var. *confertiflorum*	Long-stem Golden-yarrow	CS-CS, SMC

APPENDIX A PLANT SPECIES OBSERVED ON THE PIJNENBURG PROPERTY - TPM 20778			
Family Name	**Species Name**	**Common Name**	**Habitat**
	**Filago gallica*	Narrow-leaf Filago	CS-CS, SMC
	Gnaphalium californicum	California Everlasting	CS-CS, SMC
	Gutierrezia sarothrae	Broom Matchweed/snakeweed	CS-CS, SMC
	Hazardia squarrosa var. *grindelioides*	Sawtooth Goldenbush	CS-CS, SMC
	**Hedypnois cretica*	Crete Hedypnois	CS-CS
	Helianthus gracilentus	Slender Sunflower	CS-CS, SMC
	Heterotheca grandiflora	Telegraph Weed	CS-CS
	Lasthenia sp.	Goldfields	CS-CS, SMC
	Machaeranthera juncea **4 1-1-1**	Rush Chaparral-star, Rush-like Bristleweed	CS-CS
	Osmadenia tenella	Osmadenia	CS-CS
	Porophyllum gracile	Odora	CS-CS
	**Sonchus oleraceus*	Common Sow-thistle	CS-CS, SMC
	Stephanomeria sp.	Wreath-plant	CS-CS, SMC
	Stylocline gnaphaloides	Everlasting Nest-straw	CS-CS, SMC
	Viguiera laciniata **4 1-2-1**	San Diego Sunflower	CS-CS
Boraginaceae	*Cryptantha* sp.	Cryptantha	CS-CS, SMC
	Plagiobothrys sp.	Popcornflower	CS-CS, SMC
Brassicaceae	**Brassica nigra*	Black Mustard	CS-CS
Campanulaceae	*Nemacladus* sp.	Threadplant	SMC
Caprifoliaceae	*Lonicera subspicata* var. *denudata*	Southern Honeysuckle	CS-CS, SMC
	Sambucus mexicana	Blue Elderberry	CS-CS
Caryophyllaceae	**Silene gallica*	Common Catchfly	CS-CS, SMC
	Silene multinervia	Many-nerve Catchfly	SMC
Chenopodiaceae	**Salsola tragus*	Russian-thistle, Tumbleweed	CS-CS
Cistaceae	*Helianthemum scoparium*	Peak Rush-rose	CS-CS, SMC
Convolvulaceae	*Calystegia macrostegia* ssp.	Morning-glory	CS-CS, SMC
Crassulaceae	*Dudleya pulverulenta*	Dudleya	SMC
Cucurbitaceae	*Marah macrocarpus* var. *macrocarpus*	Manroot, Wild-cucumber	CS-CS, SMC
Cuscutaceae	*Cuscuta* sp.	Dodder	CS-CS, SMC
Ericaceae	*Arctostaphylos* sp.		CS-CS, SMC
	Xylococcus bicolor	Mission Manzanita	CS-CS, SMC
Euphorbiaceae	*Chamaesyce* sp.	Spurge	CS-CS

APPENDIX A PLANT SPECIES OBSERVED ON THE PIJNENBURG PROPERTY - TPM 20778			
Family Name	**Species Name**	**Common Name**	**Habitat**
Fabaceae	*Lathyrus splendens* **4 1-1-2**	Pride of California, Campo Pea	CS-CS
	Lotus hamatus	Grab Lotus	CS-CS
	Lathyrus vestitus var. *alefeldii*	San Diego Sweet Pea	CS-CS
	Lotus strigosus	Strigose deerweed	CS-CS
	Lotus scoparius	Deerweed	CS-CS, SMC
	Lupinus bicolor	Lupine	CS-CS
Fagaceae	*Quercus berberidifolia*	Scrub Oak	CS-CS, SMC
Geraniaceae	**Erodium botrys*	Long-beak Filaree/storksbill	CS-CS, SMC
	**Erodium cicutarium*	Red-stem Filaree/storksbill	CS-CS
Grossulariaceae	*Ribes indecorum*	White Flower Currant	SMC
Hydrophyllaceae	*Eriodictyon trichocalyx* var.	Yerba Santa	CS-CS, SMC
	Eucrypta chrysanthemifolia		CS-CS, SMC
	Phacelia cicutaria var. *hispida*	Caterpillar Phacelia	CS-CS, SMC
Lamiaceae	**Marrubium vulgare*	Horehound	CS-CS
	Salvia apiana	White Sage	CS-CS, SMC
	Salvia clevelandii	Fragrant Sage	SMC
	Salvia columbariae	Chia	CS-CS
Linaceae	*Hesperolinon micranthum*	Thread-stem Dwarf-flax	SMC
Malvaceae	*Malacothamnus* sp.	Bushmallow	CS-CS, SMC
Nyctaginaceae	*Mirabilis laevis* var. *crassifolia*	Coastal Wishbone Plant	CS-CS
Onagraceae	*Camissonia californica*	False-mustard	CS-CS, SMC
	Camissonia hirtella	Field Sun Cup	CS-CS, SMC
	Clarkia sp.	Clarkia	CS-CS, SMC
Orobanchaceae	*Orobanche* sp.	Broom-rape	CS-CS
Papaveraceae	*Eschscholzia californica*	California poppy	CS-CS
	Romneya trichocalyx	Hairy Matilija Poppy	CS-CS
Plantaginaceae	*Plantago* sp.	Plantain	CS-CS, SMC
Polemoniaceae	*Navarretia* sp.	Skunkweed	CS-CS, SMC
Polygonaceae	*Eriogonum fasciculatum*	California Buckwheat	CS-CS, SMC
Primulaceae	**Anagallis arvensis*	Scarlet Pimpernel, Poor Man's Weatherglass	CS-CS, SMC
Ranunculaceae	*Clematis* sp.	Virgin's Bower	SMC
	Delphinium cardinale	Cardinal/scarlet Larkspur	SMC

APPENDIX A PLANT SPECIES OBSERVED ON THE PIJNENBURG PROPERTY - TPM 20778			
Family Name	**Species Name**	**Common Name**	**Habitat**
	Delphinium sp.	Larkspur	SMC
Rhamnaceae	*Ceanothus leucodermis*	Chaparral Whitethorn	SMC
	Ceanothus tomentosus	Ramona-lilac	SMC
	Rhamnus crocea	Spiny Redberry	CS-CS, SMC
	Rhamnus ilicifolia	Holly-leaf Redberry	SMC
Rosaceae	*Adenostoma fasciculatum*	Chamise	CS-CS, SMC
	Cercocarpus minutiflorus	San Diego Mountain-mahogany	SMC
	Chamaebatia australis **4 1-2-1**	Southern Mountain Misery	SMC
	Heteromeles arbutifolia	Toyon, Christmas Berry	CS-CS, SMC
	Prunus ilicifolia ssp. *ilicifolia*	Islay, Holly-leaf Cherry	CS-CS, SMC
Rubiaceae	*Galium angustifolium* ssp. *angustifolium*	Narrow-leaf Bedstraw	CS-CS, SMC
	Galium nuttallii ssp. *nuttallii*	San Diego Bedstraw	SMC
Rutaceae	*Cneoridium dumosum*	Coast Spice Bush, Bush-rue	CS-CS, SMC
Salicaceae	*Populus fremontii* ssp. *fremontii*	Western Cottonwood	CS-CS
Saxifragaceae	*Jepsonia parryi*	Coast Jepsonia	CS-CS, SMC
Scrophulariaceae	*Antirrhinum coulterianum*	Coulter's Snapdragon	SMC
	Antirrhinum nuttallianum	Snapdragon	CS-CS, SMC
	Castilleja exserta ssp. *exserta*	Purple Owl's-clover	CS-CS, SMC
	Cordylanthus sp.	Bird's Beak	CS-CS, SMC
	Keckiella antirrhinoides var. *antirrhinoides*	Yellow Bush Penstemon	CS-CS, SMC
	Mimulus aurantiacus	Coast Monkey Flower	CS-CS, SMC
	Mimulus brevipes	Slope Semiphore	CS-CS, SMC
	Scrophularia californica ssp. *floribunda*	California Bee Plant/figwort	CS-CS
Solanaceae	**Nicotiana glauca*	Tree Tobacco	CS-CS
	Solanum sp.	Nightshade	CS-CS, SMC
	ANGIOSPERMS: MONOCOTS		
Agavaceae	*Yucca schidigera*	Mohave Yucca	CS-CS, SMC
	Yucca whipplei	Our Lord's Candle	CS-CS, SMC
Cyperaceae	*Carex* sp.	Sedge	SMC
Liliaceae	*Calochortus* sp.	Mariposa Lily	CS-CS, SMC
Poaceae	*Achnatherum coronatum*	Giant Stipa	CS-CS, SMC
	**Arundo donax*	Giant Reed	SMC

APPENDIX A
PLANT SPECIES OBSERVED ON THE PIJNENBURG PROPERTY - TPM 20778

Family Name	Species Name	Common Name	Habitat
	**Avena* sp.	Wild Oat	CS-CS, SMC
	**Bromus hordeaceus*	Soft Chess	CS-CS, SMC
	**Bromus madritensis* ssp. *rubens*	Foxtail Chess	CS-CS, SMC
	**Gastridium ventricosum*	Nit Grass	CS-CS, SMC
	Hordeum sp.	Barley	CS-CS
	**Lamarckia aurea*	Golden-top	CS-CS, SMC
	Nassella sp.	Needlegrass	CS-CS, SMC
	**Pennisetum setaceum*	African Fountain Grass	CS-CS
	**Schismus barbatus*	Mediterranean Schismus	CS-CS
	Vulpia sp.	Fescue	CS-CS, SMC
Themidaceae	*Dichelostemma capitatum* ssp. *capitatum*	Blue Dicks	CS-CS

SMC=Southern Mixed Chaparral, CS-CS=Coastal Sage-Chaparral Scrub, DEV=Developed

* = Non-native Plant Species

APPENDIX B

WILDLIFE SPECIES OBSERVED

APPENDIX B

WILDLIFE SPECIES OBSERVED ON THE PIJNENBURG PROPERTY -TPM 20778

Common Name	Scientific Name	Habitat Observed	# Observed (estimate)
Insects			
Alfalfa butterfly	*Colias eurytheme*	CS-CS	1
Anise swallowtail	*Papilo selicaon*	CS-CS	1
Ant	**Family** *Formicidae*	SMC,CS-CS	Many
Bee	**Family** *Apidae*	SMC,CS-CS	Many
Behr's metalmark	*Apodemia mormo virgulti*	CS-CS	14
Buckeye	*Junonia coenia*	CS-CS	1
Chalcedon checkerspot	*Euphydryas chalcedona*	CS-CS	2
Checkered skipper	*Prygus sp.*	CS-CS	1
Crane fly	**Family** *Tipulidae*	CS-CS	1
Dragonfly	**Suborder** *Anisoptera*	SMC,CS-CS	4
Field cricket	**Subfamily** *Gryllinae*	CS-CS	Many
Fly	**Family** *Muscidae*	SMC,CS-CS	Many
Funereal duskywing	*Erynnis funeralis*	CS-CS	17
Gabb's checkerspot	*Charidryas gabbii*	SMC	4
Grasshopper	**Family** *Acrididae*	SMC,CS-CS	Many
Honey bee	*Apis mellifera*	SMC,CS-CS	Many
Ladybug	**Family** *Coccinellidae*	SMC,CS-CS	Many
Lorquin's admiral	*Basilarchia lorquini*	CS-CS	1
Painted lady	*Vanessa cardui*	CS-CS	4
Pale swallowtail	*Papilio eurymedon*	CS-CS	2
Perplexing hairstreak	*Collophrys perplexa*	CS-CS	3
Sara orangetip	*Anthocharis sara*	CS-CS	21
Snail	**Class** *Gastropoda*	CS-CS	1
Southern blue	*Glaucopsyche lygdamus*	CS-CS	9
Sphinx moth	**Family** *Shpingidae*	CS-CS	1
Striated queen	*Danaus gilippus*	CS-CS	1
Wooly bear caterpillar	**Family** *Arctiidae*	CS-CS	1
Amphibians	None detected		
Reptiles			
Common side-blotched lizard	*Uta stansburiana*	CS-CS	Many
Southern alligator lizard	*Gerrhonotus multicarinatus*	SMC,CS-CS	1
Western fence lizard	*Sceloporus occidentalis*	SMC,CS-CS	13
Birds			
Anna's hummingbird	*Calypte anna*	SMC	3
Ash-throated flycatcher	*Myiarchus cinerascens*	SMC,CS-CS	6
Bewick's wren	*Thryomanes bewickii*	CS-CS	1
Blue-gray gnatcatcher	*Polioptila caerulea*	CS-CS	2
Bushtit	*Psaltriparus minimus*	CS-CS	5
California thrasher	*Toxostoma redivivum*	CS-CS	1
California towhee	*Pipilo crissalis*	SMC,CS-CS	18
Cassin's kingbird	*Tyrannus vociferans*	SMC	1
Common raven	*Corvus corax*	SMC,CS-CS	2
House finch	*Carpodacus mexicanus*	SMC,CS-CS	11
Mourning dove	*Zenaida macroura*	CS-CS	2
Northern flicker	*Colaptes auratus*	CS-CS	1
Phainopepla	*Phainopepla nitens*	SMC	2
Red-tailed hawk	*Buteo jamaicensis**	SMC,CS-CS	2
Rufous-sided towhee	*Pipilo erythrophthalmus*	SMC	6

APPENDIX B WILDLIFE SPECIES OBSERVED ON THE PIJNENBURG PROPERTY -TPM 20778			
Common Name	**Scientific Name**	**Habitat Observed**	**# Observed (estimate)**
Scrub jay	*Aphelocoma californica*	SMC	5
Turkey vulture	*Cathartes aura**	OH	5
Wrentit	*Chamaea fasciata*	SMC	10
Yellow-rumped warbler	*Dendroica coronata*	CS-CS	Many
Mammals			
California ground squirrel	Spermophilus beecheyi nudipes	CS-CS	1
Coyote	*Canis latrans clepticus*	CS-CS	3 Scats
Desert cottontail rabbit	*Sylvilagus audubonii*	SMC,CS-CS	1 seen, droppings
Domestic cat	*Felis* sp.	CS-CS	1 Skull
Gray fox	*Urocyon cinereoargenteus*	CS-CS	Tracks and scat
Mule deer	*Odocoileus hemionus**	CS-CS	Pellets
Pocket gopher	*Thomomys bottae*	CS-CS	Many borrows

Habitat Key:

SMC= Southern mixed chaparral
CS-CS= Coastal sage -chaparral scrub
OH= Overhead
*= Sensitive species

APPENDIX C

SENSITIVE PLANT SPECIES
WITH THE POTENTIAL TO OCCUR

APPENDIX C

SENSITIVE SPECIES WITH THE POTENTIAL TO OCCUR WITHIN OR ADJACENT TO PIJNENBURG PROPERTY (USGS TECATE QUAD) TPM 20778

Species	Growth form/Bloom Period	CNPS	R-E-D	State	Federal	Potential to Occur Onsite
ACANTHOMINTHA ILICIFOLIA "San Diego thorn-mint"	Annual herb April - June	1B	2-3-2	CE	FT	Low, this species would have been observable and was not detected during the surveys.
ARCTOSTAPHYLOS OTAYENSIS "Otay manzanita"	Shrub (evergreen) January - March	1B	3-2-3	None	SOC	Low, this species would have been observable and was not detected during the surveys.
ARTEMESIA PALMERI "Palmer's sage"	Shrub (deciduous) May-September	4	1-2-1	None	None	Low, this species would have been observable and was not detected during the surveys.
ASTRAGALUS DEANEI "Dean's milk-vetch"	Perennial herb February - May	1B	3-3-3	None	SOC	Low, this species would have been observable and was not detected during the surveys.
CALANDRINIA BREWERI "Brewer's calandrinia"	Annual herb March- June	4	1-2-2	None	None	Low, this species would have been observable and was not detected during the surveys.
CALOCHORTUS DUNNII "Dunn's mariposa lily"	Perennial herb (bulbiferous) April - June	1B	2-2-2	CR	SOC	Low, this species would have been observable and was not detected during the surveys.
CHORIZANTHE LEPTOTHECA "Peninsular spineflower"	Annual herb May - August	4	1-2-2	None	None	Low, this species would have been observable and was not detected during the surveys.
CHORIZANTHE POLYGONOIDES VAR. LONGISPINA "long-spined spineflower"	Annual herb April - July	1B	2-2-2	None	SOC	Low, this species would have been observable and was not detected during the surveys.
CHORIZANTHE PROCUMBENS " *prostrate* spineflower"	Annual herb			None	None.	Low, this species would have been observable and was not detected during the surveys.
COMAROSTAPHYLIS DIVERSIFOLIA SSP. DIVERSIFOLIA "summer holly"	Shrub (evergreen) April - June	1B	2-2-2	None	SOC	Low, this species would have been observable and was not detected during the surveys.
DICHONDRA OCCIDENTALIS "western dichondra"	Perennial herb (rhizomatous) March - July	4	1-2-1	None	None	Low, this species would have been observable and was not detected during the surveys.
ERICAMERIA PALMERI SSP. PALMERI "Palmer's goldenbush"	Shrub (evergreen) July - November	2	3-2-1	None	SOC	Low, this species would have been observable and was not detected during the surveys.
FREMONTODENDRON MEXICANUM "Mexican flannelbush"	Shrub (evergreen) March - June	1B	3-3-2	CR	FE	Low, this species would have been observable and was not detected during the surveys.
GERAEA VISCIDA "sticky geraea"	Perennial herb May - June	2	2-1-1	None	None	Low, this species would have been observable and was not detected during the surveys.
HARPAGONELLA PALMERI "Palmer's grapplinghook"	Annual herb March - May	4	1-2-1	None	SOC	Low, this species would have been observable and was not detected during the surveys.
HORKELIA TRUNCATA "Ramona horkelia"	Perennial herb May - June	1B	3-1-2	None	None	Low, this species would have been observable and was not detected during the surveys.
LEPECHINIA GANDERI "Gander's pitcher sage"	Shrub June - July	1B	3-1-2	None	SOC	Low, this species would have been observable and was not detected during the surveys.
LEPIDIUM VIRGINICUM VAR. ROBINSONII "Robinson's pepper-grass"	Annual herb January - July	1B	3-2-2	None	None	Low, this species would have been observable and was not detected during the surveys.

APPENDIX C

SENSITIVE SPECIES WITH THE POTENTIAL TO OCCUR WITHIN OR ADJACENT TO PIJNENBURG PROPERTY (USGS TECATE QUAD) TPM 20778

Species	Growth form/Bloom Period	CNPS	R-E-D	State	Federal	Potential to Occur Onsite
LOTUS CRASSIFOLIUS VAR. OTAYENSIS "Otay Mountain lotus"	Perennial herb May - August	1B	3-3-2	None	SOC	Low, this species would have been observable and was not detected during the surveys.
MONARDELLA HYPOLEUCA SSP. LANATA "felt-leaved monardella"	Perennial herb (rhizomatous) June - August	1B	2-2-2	None	None	Low, this species would have been observable and was not detected during the surveys.
MONARDELLA LINOIDES SSP. VIMINEA "willowy monardella"	Perennial herb June - August	1B	2-3-2	CE	FE	Low, this species would have been observable and was not detected during the surveys.
NOLINA INTERRATA "Dehesa nolina"	Perennial herb June - July	1B	3-3-2	CE	SOC	Low, this species would have been observable and was not detected during the surveys.
OPHIOGLOSSUM CALIFORNICUM "California adder's-tongue"	Perennial herb (rhizomatous) December - May	4	1-2-2	None	None	Low, this species would have been observable and was not detected during the surveys.
PENTACHAETA AUREA "golden-rayed pentachaeta"	Annual herb March - July	4	1-2-2	None	None	Low, this species would have been observable and was not detected during the surveys.
PIPERIA COOPERI ″chaparral rein orchid″	Perrenial herb March-June	4	1-2-2	None	None	Low, this species would have been observable and was not detected during the surveys.
PIPERIA LEPTOPETALA "narrow-petaled rein orchid"	Perennial herb May - July	4	1-1-3	None	None	Low, this species would have been observable and was not detected during the surveys.
POLYGALA CORNUTA VAR. FISHIAE "Fish's milkwort"	Shrub (deciduous) May - August	4	1-1-2	None	None	Low, this species would have been observable and was not detected during the surveys.
QUERCUS CEDROSENSIS "Cedros Island oak"	Tree (evergreen) April - May	2	3-2-1	None	None	Low, this species would have been observable and was not detected during the surveys.
RIBES CANTHARIFORME "Moreno currant"	Shrub (deciduous) February - April	1B	3-1-3	None	SOC	Low, this species would have been observable and was not detected during the surveys.
SALVIA MUNZII "Munz's sage"	Shrub (evergreen) February - April	2	2-2-1	None	None	Low, this species would have been observable and was not detected during the surveys.
SATUREJA CHANDLERI "San Miguel savory"	Perennial herb March - July	1B	2-2-2	None	None	Low, this species would have been observable and was not detected during the surveys.
SENECIO GANDERI "Gander's ragwort"	Perennial herb April - May	1B	3-2-3	CR	SOC	Low, this species would have been observable and was not detected during the surveys.
TETRACOCCUS DIOICUS "Parry's tetracoccus"	Shrub (deciduous) April - May	1B	3-2-2	None	SOC	Low, this species would have been observable and was not detected during the surveys.

APPENDIX D

SENSITIVE WILDLIFE SPECIES WITH THE POTENTIAL TO OCCUR

APPENDIX D
SENSITIVE ANIMAL SPECIES WITH THE POTENTIAL TO OCCUR WITHIN OR ADJACENT TO THE PIJNENBURG PROPERTY - TPM 20778

Common Name	Scientific name	Federal/ State Status	Habitat	Potential On-Site
INSECTS				
Dun skipper	*Euphyes vestris harbisoni*	SOC/--	Woods and edges, prairies and roadsides, seeps and springs in southern California (Glassberg 2001). Primary host plant *Carex spissa* (Faulkner and Klein 2003).	Low, host plant not observed onsite.
Hermes copper	*Lycaena hermes*	SOC/CSC	Coastal sage scrub, mixed chaparral and chamise chaparral; 0-3000ft. Host plant *Rhamnus crocea* , in proximity to *Eriogonum fasciculatum* .	Low, although host plant occurs onsite it is not in close proximity to buckwheat.
Quino Checkerspot	*Euphydryas editha quino*	FE/SOC	Open shrub habitats, primary host plant is *Plantago erecta*	Low; focused survey 2004 did not detect presence.
AMPHIBIANS				
Arroyo southwestern toad	*Bufo microscaphus californicus*	FE/CSC	Semi-arid regions near washes or intermittent streams. Habitats used include valley-foothill and desert riparian as well as a variety of more arid habitats including desert wash, palm oasis, and Joshua tree, mixed chaparral and sagebrush; 500-3000ft. Nocturnal.	Low, habitat assessment and survey did not find suitable habitat onsite or within the portion of Portrero Creek immediately off-site.
Western spadefoot toad	*Scaphiopus hammondii*	SOC/CSC	Grassland situations can occasionally occur in valley-foothill hardwood woodlands. Populations may persist a few years in orchard-vineyard habitats; 0-3000ft.	High; potential breeding habitat in adjacent Potrero Creek, appropriate habitat in tributaries onsite.
REPTILES				
Coastal rosy boa	*Charina trivirgata roseofusca*	SOC/CSC	Coastal sage scrub, mixed chaparral, oak woodlands and chamise chaparral. Often found in association with rock outcrops; 0-6800 ft.	High, appropriate habitat onsite.
Coastal western whiptail	*Cnemidophorus tigris multiscutatus*	SOC/CSC	Mixed chaparral, riparian, oak woodlands and chamise chaparral. Prefers rocky firm soils but avoids dense grasslands and wet areas; 0-3000ft.	High, appropriate habitat onsite.
Coast patch-nosed snake	*Salvadora hexalepis virgultea*	SOC/CSC	Grass, chaparral, woodland, desert and coastal sage scrub. Found near rock outcrops with adjacent seasonal drainages; 0-3000ft.	High, appropriate habitat onsite.
Northern red diamond rattlesnake	*Crotalus ruber ruber*	SOC/CSC	Coastal sage scrub, mixed chaparral, open grassy areas and agricultural areas, chamise chaparral, pinon juniper and desert scrub; 0-3000ft.	High, appropriate habitat onsite.

APPENDIX D
SENSITIVE ANIMAL SPECIES WITH THE POTENTIAL TO OCCUR WITHIN OR ADJACENT TO THE PIJNENBURG PROPERTY - TPM 20778

Common Name	Scientific name	Federal/ State Status	Habitat	Potential On-Site
Orange-throated whiptail	*Cnemidophorus hyperythrus*	SOC/CSC Protected	Can be found in coastal sage scrub, mixed chaparral, grassland, riparian, and chamise chaparral habitats. Open hillsides with brush and rock, well drained soils; 0-1000ft.	High, appropriate habitat onsite.
San Diego banded gecko	*Coleonyx variegatus abbotti*	SOC/--	This species is uncommon in coastal scrub and chaparral mostly occurring in granite or rocky out crops in this habitat (Zeiner *et. al.* 1988).	High; appropriate habitat onsite.
San Diego horned lizard	*Phrynosoma coronatum blainvillei*	SOC/CSC	Occurs in valley-foothill hardwood, conifer and riparian habitats, as well as in pine-cypress, juniper and annual grass habitats; needs open areas fro basking, ants and other insect prey. 0-8000ft.	High, appropriate habitat abundant onsite.
San Diego ringneck snake	*Diadophis punctatus similis*	County Sensitive	Coastal sage scrub, mixed chaparral, riparian, oak woodlands, chamise chaparral, mixed conifer, closed cone forest in moist micro-habitats. Can be found on surface during winter after rainfalls or during spring; 0 -7200 ft.	Moderate, appropriate but limited habitat onsite.
Silvery legless lizard	*Anniella pulchra pulchra*	SOC/CSC	Coastal sage scrub, grassland, riparian and coastal desert dunes. Found in sandy loam and areas of accumulated leaf litter beneath shrubs and trees in mosit micro-habitats; 0 to 5000 ft.	Moderate, appropriate but limited habitat onsite.
MAMMALS				
American badger	*Taxidea taxus*	--/CSC	This species is most abundant in drier open stages of most shrub, forest, and herbaceous habitats; 0 to over 3000ft.	Low, marginal habitat onsite and no burrows observed.
Big free-tailed bat	*Nyctinomops macrotis*	--/CSC	This species is found in a variety of plant associations including desert scrub, various woodlands and coniferous forests. Is a colonial roosting species that is typically found in crevices of rugged cliffs and high, rocky outcrops; 0 to 3000ft.	Moderate, appropriate habitat onsite.
Dulzura California pocket mouse	*Chaetodipus californicus femoralis*	SOC/CSC	Occupies coastal sage scrub, mixed chaparral, oak woodland, chamise chaparral, and mixed conifer habitats; 0 to over 3000ft.	High, appropriate habitat onsite.

APPENDIX D
SENSITIVE ANIMAL SPECIES WITH THE POTENTIAL TO OCCUR WITHIN OR ADJACENT TO THE PIJNENBURG PROPERTY - TPM 20778

Common Name	Scientific name	Federal/ State Status	Habitat	Potential On-Site
Fringed Myotis	*Myotis thysanodes*	SOC/CSC	This species may be found in a variety of plant communities including desert scrub, oak woodlands, and pinyon-juniper forests. It is a colonial species that prefers caves, mines and abandoned buildings for roost sites.	Low potential for roosting onsite, moderate potential for foraging.
Greater western mastiff bat	*Eumops perotis californicus*	SOC/CSC	Open semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban. Crevices in cliff faces, high buildings, trees, and tunnels are required for roosting; 500-3000ft.	High, appropriate foraging and roosting habitat onsite. Known to occur in all major watersheds in san Diego Co. (SDCO 2004).
Long-eared myotis	*Myotis evotis*	SOC/--	They are found in most brush, woodland, and forest habitats from sea level to 9000 feet, but more typically occurs in coniferous forests at elevations above 7000 feet. Roostes in buildings, crevices, bark, and snags.	Moderate; appropriate roosting and foraging habitat onsite, but elevation range is low. Species detected in Otay River watershed (SDCO 2004).
Los Angeles little pocket mouse	*Perognathus longimermbris brevinasus*	SOC/CSC	Los Angeles Pocket mouse is restricted to lower elevation grasslands and Coastal Sage associations in the Los Angeles Basin; 0-1000ft.	Low, no grassland, site is at upper limit of elevation range for this species.
Mountain Lion	*Felis concolor*	County Sensitive	Species found in a variety of different habitats from desert to coast range forest; 0 to 10,000ft.	High, appropriate habitat onsite.
Pallid bat	*Antrozous pallidus*	--/CSC	Coastal sage scrub, mixed chaparral, oak woodlands, chamise chaparral, desert wash and desert scrub. Prefers rocky outcrops, cliffs and crevices with access to open habitats for foraging; 0-6000ft.	Moderate, appropriate habitat onsite, but marginal hardwood component. Species detected in Otay River watershed (SDCO 2004).
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	--/CSC	This species is found in a variety of plant associations including desert scrub, coastal scrub and pine oak woodlands. Is a colonial roosting species that is typically found in crevices of rugged cliffs and high, rocky outcrops; 0 to 3000ft.	High, appropriate habitat onsite. Detected in Otay River watershed (SDCO 2004)
Ringtail	*Bassariscus astutus*	County Sensitive	Nocturnal; found in mixed and chamise chaparral. Nests in rock recesses, hollow trees, logs, snags, abandoned burrows, or woodrat nests; 500 to over 3000ft.	High, appropriate habitat onsite.

APPENDIX D
SENSITIVE ANIMAL SPECIES WITH THE POTENTIAL TO OCCUR WITHIN OR ADJACENT TO THE PIJNENBURG PROPERTY - TPM 20778

Common Name	Scientific name	Federal/ State Status	Habitat	Potential On-Site
San Diego black-tailed jackrabbit	*Lepus californicus bennetti*	SOC/CSC	Coastal sage scrub, mixed chaparral, oak woodlands, chamise chaparral, mixed conifer, and closed cone forest and open areas. Common in irrigated pastures and row crops; 0 to over 3000ft.	Low, this species is usually observable and was not observed onsite.
San Diego desert woodrat	*Neotoma lepida intermedia*	SOC/CSC	Nocturnal in Coastal sage scrub, oak woodlands and chamise chaparral and rocky outcrops. Typically associated with cacti; 500-3000ft.	Low, no cacti onsite.
Small-footed myotis	*Myotis ciliolabrum*	SOC/--	Occurs in deserts, chaparral, riparian zones, and western coniferous forests. It is most common in elevations above the pinyon-juniper forest level. Roosts in crevices provided by natural features such as cliffs, rocky outcrops, caves, and trees; 500 to 3000ft.	Moderate, appropriate habitat onsite. Detected in Otay River watershed (SDCO 2004).
Southern grasshopper mouse	*Onychomys torridus ramona*	SOC/CSC	Nocturnal in coastal sage scrub, mixed chaparral, grassland, and chamise chaparral. Low to moderate shrub cover is preferred; 500-3000ft.	Moderate, appropriate habitat onsite.
Townsend's western big-eared bat	*Corynorhinos townsendii*	SOC/CSC	Found in all but subalpine and alpine habitats. Requires caves, mines, tunnels, buildings, or other human-made structures for night, day, hibernation or maternity roosts; 500-10,000ft.	Moderate. Appropriate foraging habitat, but limited roosting habitat onsite. Detected in Otay River watershed (SDCO 2004).
Yuma myotis	*Myotis yumanensis*	SOC/CSC	Mixed chaparral, riparian, oak woodland and pinon juniper. Optimal habitats are open forests and woodlands with sources of water over which to feed; roosts in buildings, mines, caves, bridges, crevices, and abandoned swallow nests. Sea level to 11,000 feet, but uncommon above 8000 feet.	High, appropriate habitat occurs onsite. Species detected in all major watersheds in San Diego County (SDCO 2004).

APPENDIX D
SENSITIVE ANIMAL SPECIES WITH THE POTENTIAL TO OCCUR WITHIN OR ADJACENT TO THE PIJNENBURG PROPERTY - TPM 20778

Common Name	Scientific name	Federal/ State Status	Habitat	Potential On-Site
BIRDS				
Bell's sage sparrow	*Amphispiza belli belli*	SOC/CSC	Coastal sage scrub, mixed and chamise chaparral. Nests well hidden in sagebrush or other scrub; 0-3000ft.	Moderate; appropriate habitat onsite.
California gnatcatcher	*Polioptila californica californica*	FT/CSC	Most numerous in low, dense coastal sage scrub habitat of coastal hills.	Low, the site is east of the accepted range for this species.
Golden eagle	*Aquila chrysaetos canadensis*	--/CSC Fully protected	Mountains, foothills, and adjacent grassland, open areas and canyons; 0-3000ft. (nesting/wintering)	Moderate, appropriate habitat onsite.
Loggerhead shrike	*Lanius ludovicianus*	SOC/CSC	Roadside vegetation, thickets, savanna, coastal sage scrub, grasslands, riparian, oak woodlands and desert scrub and wash or any open country with high perches as lookouts; 0-3000ft.	Moderate, appropriate habitat onsite.
Rufous-crowned sparrow	*Aimophila ruficeps canescens*	SOC/CSC	Favors steep and rocky coastal sage scrub.	Low, coastal sage scrub habitat was not steep.
Sharp-shinned hawk (nesting)	*Accipiter striatus*	--/CSC	Open woodlands, residential, larger trees for nesting. Uncommon migrant and winter visitor, casual summer visitor; nesting has not been documented in San Diego County (Unitt 1984).	Low potential for nesting, although high potential for foraging; habitat exists onsite.

* = Appendix E – Sensitivity Codes

APPENDIX E

SENSITIVITY CODES

SENSITIVITY CODES

FEDERAL SPECIES DESIGNATIONS (USFWS 2001)

Category	
FE	Federal Endangered species
FT	Federal Threatened species
FPE	Taxa proposed to be listed as Endangered.
FPT	Taxa proposed to be listed as Threatened.
SOC	Species of Concern (former Candidate Species)

STATE SPECIES DESIGNATIONS (CDFG 2000)

Category	
SE	State listed as Endangered.
ST	State listed as Threatened.
SR	State-listed Rare
SCE	State candidate for listing as Endangered.
SCT	State candidate for listing as Threatened.
CSC	CDFG "Species of Special Concern".

CALIFORNIA NATIVE PLANT SOCIETY DESIGNATIONS (CNPS 2003)

The CNPS Lists

List	1	Plants of highest priority.
	1A	Plants presumed extinct in California.
	1B	Plants rare, threatened or endangered in California and elsewhere.
List	2	Plants rare, threatened or endangered in California, but more common elsewhere.
List	3	Plants about which we need more information. (A Review List)
List	4	Plants of limited distribution (A Watch List).

The R-E-D Code

R (Rarity)

1. Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time.
2. Distributed in a limited number of occurrences, occasionally more if each occurrence is small.
3. Distributed in one to several highly restricted occurrences, or present in such small numbers that it is seldom reported.

E (Endangerment)

1. Not endangered.
2. Endangered in a portion of its range.
3. Endangered throughout its range.

D (Distribution)

1. More or less widespread outside California.
2. Rare outside California.
3. Endemic to California.

APPENDIX F

QUINO CHECKERSPOT BUTTERFLY SURVEY

Mr. Daniel Marquez
U. S. Fish and Wildlife Service
6010 Hidden Valley Road
Carlsbad, California 92009

Subject: ***45-Day Report for the Pijnenburg Property Quino Checkerspot Butterfly Flight Survey, San Diego County, California PERMIT #TE-007628 and #TE-812206-3***

Dear Mr. Marquez:

This report documents the results of eight (8) flight survey visits conducted by Darren Scott Smith (Permit #TE-007628) and Robin Church (#TE-812206-3), for the presence of the federally-listed endangered quino checkerspot butterfly (*Euphydryas editha quino*; QCB). QCB was not observed during the survey. The QCB's primary host plant, dwarf plantain (*Plantago erecta*) and several other potential host plants (*Castelleja exserta, Kekiella antirhinioides,* and *Antirhinum nuttallianum*) were common in several locations on the site.

Site Location and Description

The Pijnenburg property occurs near the Community of Barrett Junction, east San Diego County, on either side of State Highway 94 and Barrett-Smith Road. The proposed project is located within the USGS 7.5' Barrett Lake quad, Township 17 south, range 2 East (Figure 1). The Project area occurs within Survey Area 2, as designated on the Year 2000 Survey Areas Map (USFWS 2000). The proposed project is a subdivision and residential development of approximately 76 acres into four parcels plus a remainder parcel. The proposed project also includes a biological open space easement. The areas surveyed included all suitable habitat (*e.g.*, host plant populations, annual nectar plant populations, hilltops, ridgelines, and sparsely vegetated areas) within the property. Based on a habitat assessment conducted prior to the flight season by Robin Church, not all of the property was considered suitable habitat for the QCB. Approximately 33 acres were considered suitable and surveyed for QCB.

The project site supports native vegetation, a residential development, a former or temporary dwelling site, and several dirt roads. Topography onsite is moderately diverse, with very steep boulder outcrops and slopes south of State Highway 94 and moderate and gentle slopes north of State Highway 94. Elevations range onsite from 900 to 1950 feet above mean sea level. The site is situated on a north-facing slope with several slope faces dissected by south to north trending first order drainages. A single minor hilltop occurs adjacent to highway 94.

Soils onsite consist of Vista rocky coarse sandy loam (Vve), 15 to 30 percent slopes and Cieneba-Fallbrook rocky coarse sandy loam (CmrG), 30 to 75 percent slopes (Bowman 1973). The soils on the property include stony land, Cieneba very rocky coarse sandy

loam, Cieneba-Fallbrook rocky sandy loam, and acid ignious rocks (Bowman 1973). The northern portion of the property is mapped as stony land (Bowman 1973). Stony land occurs at the base of steep rocky slopes and consists of secondary material redeposited from the upper slopes. In many places there are large boulders 3 to 6 feet in diameter on the surface.

Cieneba series soils occur along the northeastern edge of the property area. These soils are formed from granitic rock and are well drained (Bowman 1973). The highest portion of the project area, in the southwestern corner, is mapped as acid igneous rock land (Bowman 1973). This is rough steeply sloping broken terrain with large boulders that cover 50 to 90 percent of the total area. Soil material between these rocks is loam to loamy course sand in texture and is very shallow over decomposed granite. Representative photos of suitable habitat on the site are shown on Photopage 1.

Vegetation Associations

Results from the site assessment determined that approximately 33 acres of habitat that would require QCB surveys and 43 acres could be excluded from surveys (Figure 2). Approximately eight to ten years prior to this survey much of the site was burned. Most of the site has regenerated as moderately dense shrubland vegetation that is approaching closed-canopy chaparral. South of State Highway 94, there are steep, southeast-facing slopes that have low vegetation cover and support sparse vegetation typically found in chaparral gaps or understories. North of State Highway 94 there is a mix of dense chaparral and regenerating chaparral that is sparse due in part to erosion, minor mechanical disturbance, exotic species, and clay soils. Where exotic species are sparse there are moderately dense populations of native forbs.

The project site currently supports two native habitat types, southern mixed chaparral and coastal sage-chaparral scrub (*sensu.* Holland 1986). Portions of the project site also support developed land and disturbed land. These habitats are discussed in further detail below.

Southern mixed chaparral covers approximately **45.9**-acres of the site and consists of nearly closed canopy stands (between 1.5 and 3 meters tall) of a variety chaparral species. Most stands are evenly mixed with the following species trading dominance at small scales: Chamise (*Adenostoma fasciculatum*) mission manzanita (*Xylococcus bicolor*), scrub oak (*Quercus berberidifolia*), holly-leaf cherry (*Prunus ilicifolia*), San Diego mountain-mahogany (*Cercocarpus minutiflorus*), woolly-leaved ceanothus (*Ceanothus tomentosus*), yellow bush penstemon (*Kekiella antirrhinoides* var. *antirrhinoides*), and honeysuckle (*Lonicera supspicata*). Common gap or understory species included alderson's rock rose (*Helianthemum scoparium*), California melic (*Mellica imperfecta*), narrow-leaved bedstraw (*Galium angustifolium*), and golden yarrow (*Eriophyllum confertiflorum*).

Coastal sage-chaparral scrub occurred mainly in the northern one-third of the site. Following the burn this area has recovered more slowly than the dense chaparral

elsewhere on the site leaving canopy gaps. This area is primarily composed of an even mixture of chaparral species chamise, woolly-leaved ceanothus, yellow bush penstemon, with a significant component of subshrubs including flat-top buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), San Diego sunflower (*Viguiera laciniata*), and deer weed (*Lotus scoparius*), with a few individuals of white sage (*Salvia apiana*) and California sagebrush (*Artemisia californica*). Gaps in this vegetation varied in composition between dense cover of exotic annuals [*e.g.*, broad-loabed filaree (*Erodium botrys*), bromes (*Bromus hordeaeus* and *B. madritensis*), black mustard (*Brassica nigra*), and slender oat (*Avena barbata*)] and open soils with a number of annual understory species [*e.g.*, blue dicks (*Dichelostemma capitatum*), golden yarrow (*Eriophyllum confertiflorum*), California sun cup (*Camissonia bisorta*), strigose deerweed (*Lotus strigosus*), grab lotus (*Lotus hamatus*), Lindley's annual lupine (*Lupinus bicolor*), slender pectocarya (*Pectocarya linearis*), several species of popcorn flower (*Cryptantha/Plagiobothrys* spp.), and California poppy (*Eschscholzia californica*). Approximately 27.53 acres of this habitat occurs onsite.

Disturbed habitat or developed land onsite consists of the residence and associated landscaping/garden, formerly occupied areas, or dirt roads. Disturbed habitat is composed primarily of bare ground. Approximately 2.86 acres of the site is composed of disturbed and developed lands.

Quino Checkerspot Survey Methods

Survey methods followed those outlined in the Year 2002 Survey Protocol for the Quino checkerspot butterfly (USFWS 2002). Surveys consisted of meandering transects within all of the open native vegetation on site with proportionally greater time was spent within areas supporting nectar plants, known and potential host plants, and on the hilltop north of Highway 94. Survey conditions are detailed in Table 1. The initial two survey dates covered more area than the suitable areas mapped in Figure 2. This additional area was determined to be unsuitable due to high shrub density and lack of potential host plants following the first two surveys. The survey rate (acres/hour) was underestimated because the steepness of the site required slow movement between suitable habitat areas. Given this underestimation, the site was thoroughly surveyed, and well-within the 10-15 acre/hour average rate described in the 2002 Protocol. Areas supporting large populations of dwarf plantain (*Plantago erecta*) were visited twice per survey. All populations of known host plants were mapped in the field onto an ortho-photo (County of San Diego Color Infra Red MrSiDD image from 2000) and later transferred to a geo-referenced 2003 aerial photo using a GIS. All butterflies observed were enumerated and plants or plant phenologies related to QCB ecology were described in field notes. Field notes are attached in Appendix 1.

Table 1. Survey Conditions.

Survey Number Duration Acres/Hour	Date	Time	Temp. (°F)	Sky (% Cloud Cover)	Wind Mph (Gusts)	Observers
1 5.8 5.7	03/06/04	0920 1000 1125 1235 1340 1550	63° 66° 68° 70° 70° 68°	0 0 0 0 0 0	0 0-1 1-3 2-5 1-7 1-5	DSS
2 6.1 5.4	3/14/04	0915 1020 1305 1420 1525	67° 73° 76° 78° 78°	overcast 0 0 0 0	0-1 0-1 2-5 3-5 3-5 (7)	DSS
3 4.1 8.1	03/19/04	0925 1010 1100 1335	65° 67° 66° 68°	50 30 15 5	0-1 0-2 1-5 2-7	DSS
4 5.1 6.5	03/27/04	0915 1040 1255 1420	64° 66° 68° 68°	0 0 0 0	1-3 2-3 2-3 3-5	DSS
5 4.0 8.3	04/04/04	1005 1130 1315 1630	64° 67° 70° 65°	10 10 25 60	2-3 1-3 2-5 3-5	DSS, RC
6 4.5 7.4	04/10/04	0935 1015 1240 1445	63° 65° 67° 70°	Hazy 0 0 0	0-1 1-3 3-5 3-5	DSS
7 4.8 6.9	04/18/04	0900 1005 1135 1350	63° 65° 66° 68°	30 25 15 15	1-3 1-3 1-3 2-3	DSS
8 5.1 6.5	04/25/04	0905 1015 1125 1300 1410	67° 75° 78° 80° 80°	Hazy 0 0 0 0	0 0-1 3-5 3-7 3-7	DSS

Results

Host Plants and Nectar Sources

Dwarf plantain and common owl's-clover were observed in several locations in the northern portion of the site north of State Highway 94 (Figure 3). Neither species was observed south of State Highway 94. Dwarf plantain was present and a few individuals

were beginning to flower at the beginning of the surveys (3/6/04). Approximately 95-99 percent of the plants were completely dried by 4/18/04. Yellow bush penstemon (an unlikely but potential host plant) was common on either side of State Highway 94 but typically occurred in dense vegetation that was unsuitable for QCB.

Annual nectar sources for QCB were occasional to rare including mostly sparse populations (ca. 1-5 plants/m^2) of popcorn flower (*Cryptantha* spp.), strigose deerweed, yellow pincushion (*Chaenactis glabriuscula*), blue dicks (*Dichelostemma pulchellum*), and suncups (*Camissonia bistorta*). The large mapped nectar plant polygon in the northern portion of the site was very sparse (1 nectar plant / 10 m^2 over the polygon) due to the abundance of exotic herb species. Within this polygon were two small patches (ca. 5 m^2) of moderately dense (20 plants/ m^2) coast goldfields (*Lasthenia californica*). Both annual and perennial nectar species (*e.g.,* California buckwheat and San Diego sunflower) were out of phase with the QCB host plants not blooming until most host plants were senescent. Locations of the annual nectar plant flower fields are shown in Figure 3.

Butterflies Observed

QCB was not observed onsite. Approximately fourteen other butterfly species were observed on the property during the surveys (see Table 2). On April 4, 2004 two Gabb's checkerspot butterflies were observed within a drainage channel bottom that separated a large and dense patch of dwarf plantain. The butterflies were observed flying rapidly up the drainage, then landing on the ground briefly and then flying up the drainage out of sight. Two photographs were taken as the butterflies briefly alighted. Based on size, behavior, and review of the photographs the butterflies were positively identified as Gabb's checkerspots and not QCB (refer to photopage X). Gabb's checkerspots were observed in the same location and elsewhere on the site during later surveys.

Table 2. Butterflies Observed During Surveys.

Species	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Sara Orangetip *(Anthocharis sara)*	31	62	25	18	13	10	1	10
Painted Lady *(Vannessa cardui)*	1	4	6	3	3	4		
Funereal skipper *(Erynnis funeralis)*	1	5	36	32	24	18	3	
Southern Blue *(Glaucopsyche lygdamus)*	1	5	10	17	11	9		
Behr's metalmark (*Apodemia mormo virgulti*)		4	11	21	3	18	12	30
Perplexing Hairstreak (*Collophrys perplexa*)	2	6		4	1	1		
Anise Swallowtail (*Paplio selicaon*)	1		1	1				
Striated Queen (*Danaus gilippus*)		1						
Pale Swallowtail (*Paplio eurymedon*)				1	3	1		
Lorquin's Admiral (Basilarchia lorquini)					1			
Gabb's Checkerspot (Charidryas gabbii)					2	1	2	1
Buckeye (*Junonia coenia*)						1		1
Checkered Skipper (*Prygus* sp.)							1	1
Alfalfa (*Colias eurytheme*)								1

Conclusion

QCB was not observed onsite during the survey. The site does support some old roads and areas with cryptogammic crusts, and these areas support some small populations of *Plantago erecta*. Two populations of the QCB's host plant (*Plantago erecta*) occur in populations that are comparable in size and density to occupied QCB sites elsewhere in San Diego County (*e.g.,* Marron Valley, Jamul Mtn., and Otay Mesa). At a landscape scale, the Pynenburg property is different, from other QCB occupied sites in San Diego County. The Pynenburg Property is mostly north-facing with steep slopes that decrease in angle at the bottom of a large riparian drainage associated with Potrero Creek. Additionally, the large populations of *Plantago erecta* onsite occur on the immediate flanks of small 1st order drainages and not on the minor ridges or higher ground on the site. With the exception of a small localized hilltop feature adjacent State Highway 94 there are no prominent hilltops or ridges on the site. Except for these areas and the drainage flanks, the majority of the site is composed by relatively mesic vegetation forms: tall-statured and dense chaparral and coastal scrub-chaparral. This vegetation has mostly recovered from a fire approximately 8-10 years ago and much of the undisturbed vegetation is approaching canopy closure. It is unlikely that the site could support a sustained population of QCB. Given this negative survey and current conditions on site the probability of QCB occupying the Pynenburg Property is low.

Please feel free to call me at (619) 231-2789 if you have any questions regarding the survey or if you need any additional information.

Sincerely,

Darren Scott Smith 7/15/04

Darren Scott Smith
Permit Number # TE-007628

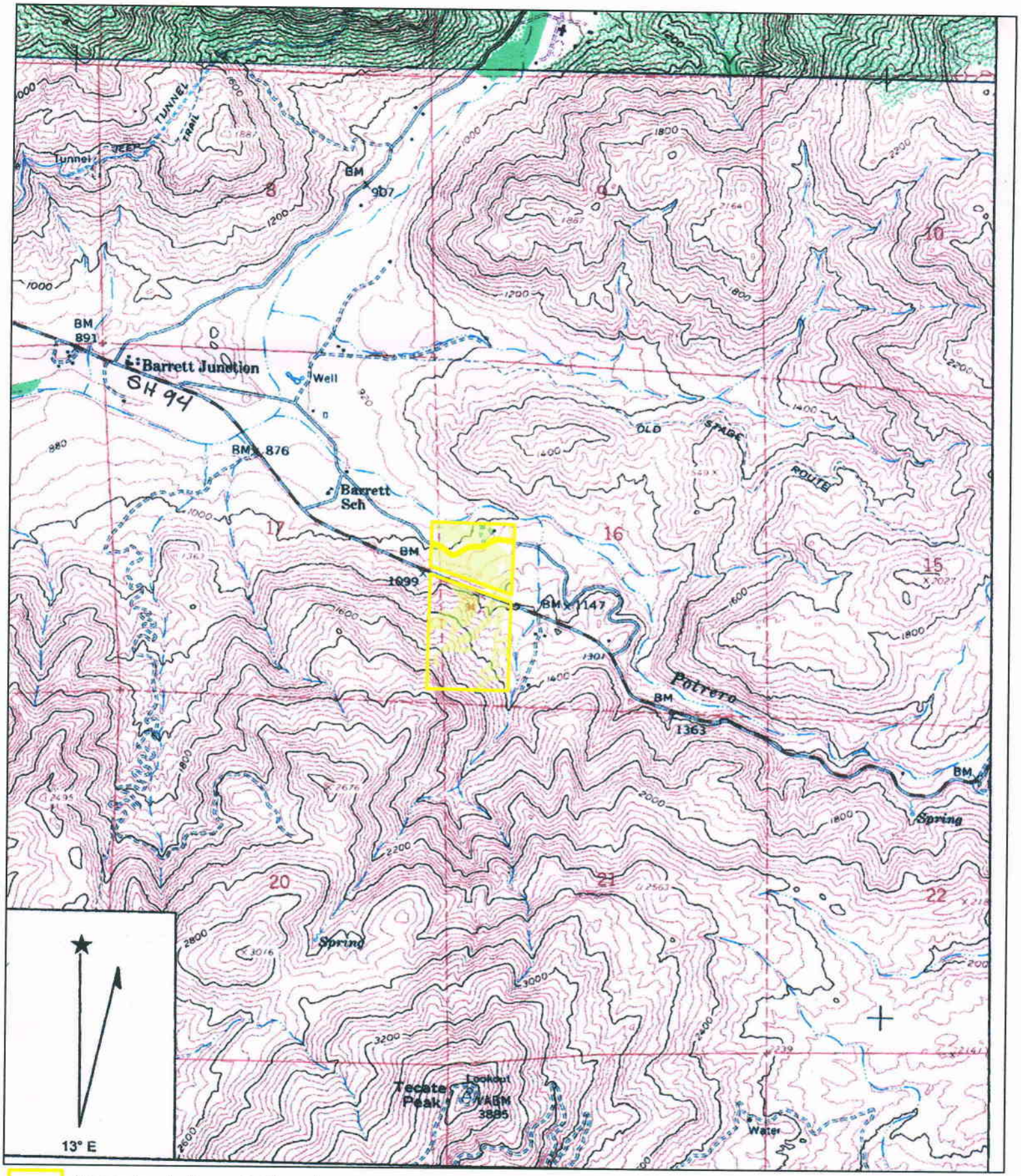
CERTIFICATION

I certify that I participated in a portion of the QCB survey performed April 4, 2004 on the Pynenburg property. I certify that the information in this report is accurate to the best of my knowledge.

Robin Church

Robin Church, TE-812206-3

FIGURES



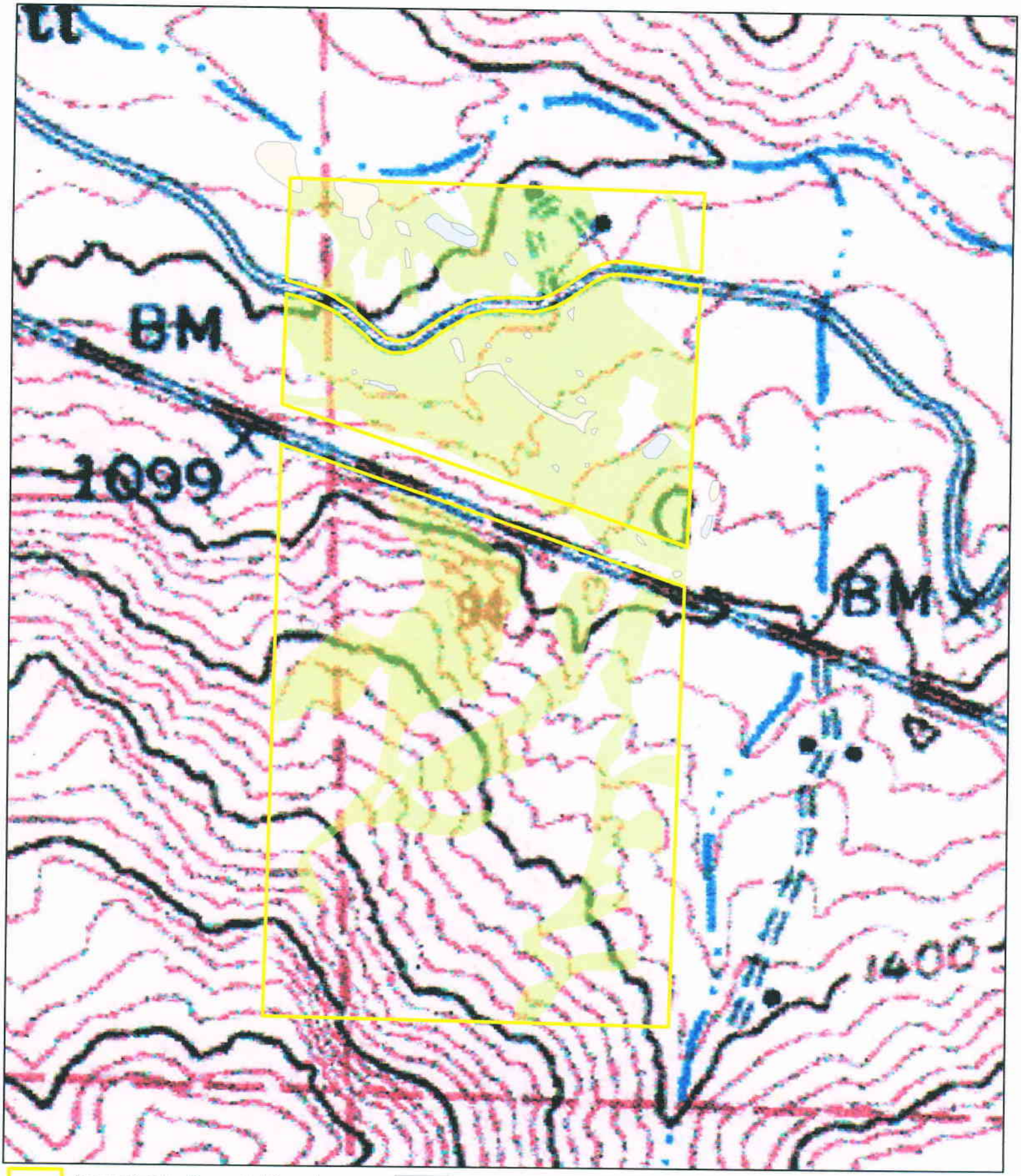
Approximate Property Boundary

Suitable Habitat (other areas generally excluded from survey)

Figure 1. Project Location. USGS 7.5' TECATE Quadrangle

Pynenburg Property - 45-Day Report for QCB

Feet
0 500 1,000 2,000 3,000 4,000



Approximate Property Boundary

Suitable Habitat (other areas generally excluded from survey)

Dwarf Plantain Population

Annual QCB Nectar Plant Population

Figure 3. Excluded Areas and QCB Host and Nectar Resources USGS 7.5' TECATE Quadrangle.

Pynenburg Property - 45-Day Report for QCB

0 100 200 400 600 800 Feet

Figure 2. Suitable Habitat (Excluded Areas) and QCB Host and Nectar Resources

Pynenburg Property - 45-Day Report for QCB

Oblique view of the site from the southwest corner. Dense chaparral in foreground. More sparse vegetation in background north of State Highway 94. The northern site boundary ends close to the near bank of the Potrero Creek drainage.

Dense patch of dwarf plantain (*Plantago erecta*) in the northwest portion of the site. Photo taken during first survey March 6, 2004.

Dense patch of dwarf plantain (*Plantago erecta*) greater than 95 % senescent in the northwest portion of the site. Photo taken during fifth survey April 4, 2004.

Gabb's checkerspot (*Charidryas gabbii*) in the northwest portion of the site. Photo taken during fifth survey April 4, 2004.

Moderately dense patch of coast goldfields (*Lasthenia californica*) in the northwestern portion of the site. Photo taken April 10, 2004. Two other patches of coast goldfields were located in the same area but were of lower density.

Gabb's checkerspot nectaring on (*Eriophyllum confertiflorum*) in the northwest portion of the site. Photo taken during seventh survey April 18 2004.

FIELD NOTES

Soumder

(1)

3/6/03

Barrett-Smith 70ac

9:20 63°F 0 clear warming
10:00 66°F 0-1 clear
11:25 68F 1-3 Clear
12:35 70F 2-5 clear
1:40 70F 1-7 clear

PE1 NE Corner of
94 Hilltop
2.5 x 8 m 50% cover
(0-90% in patches)
in flower no mature fruit yet

3:50 68°F 1-5mph clear

Pe phenology good
Very few Nectarsources
1 sm patch of Rectocarp
a few erod cic
No erod bot
No com shrubs
a few cerastium
1 ericameria

s.clem on 94BBro side
w: OPPSITE

No evidence of pe grazing
2 1st class patches of PE & then enough
Satellites to support small meta pop

Mth larvae
~~IIII~~ IIII SOT ~~IIII~~ ~~IIII~~ ~~IIII~~
Perp HS II
Anise ST /
So Blue /
Fun Skip /
Pleady /
Grasshopper
Hairy bee

Hz dense chap
peregrae
kek antirh
kek chaml
Cerco bet
Q. berb.
Min am
Croc clu
Chaen diret.
cup hir
Clem pau chap
Castilleja aff (foliolosa)
Champone? Chap pea crims-
Rham croc (broad leaf)
Narrow leaf
Het arb
Mim aur
Prun ilic

JNY ~~Bluetaled Skink~~ No. flicker
OT-Hilltop Hilltop Otta.
Scelop.

(2) 3/14/04 Bert Smith

+20 +10
HHT HHT HHT HHT HHT SOT HHT ||

BEHR's NM ||||

9:15	67°F	Clear Overcast	0-1
10:20	73°F	Clear	0-1
1:05	76°F	Clear	2-5
2:20	78°F	Clear	3-5 (7)
3:25	78°F	Clear-Hazy	3-5

SoBlm HHT
1 Bramble HS HHT
Queen |
PL ||||
Fun Skip HHT

only nectar
Ceanothus,
flowering patches of
pectocarya

Lepidium_ Best spot PE begin to yellow slightly
virg
(Nitro) Most in flower 90%
Productive patches still green.
No grazing evidence No Breakage
a few Gilia ung

Some lasthenia Not in Bloom yet w/i 1 week
Senecio doug? in Bloom
Lot Strig in Bloom
Lots of Selling Big
a few cryptantha in bloom
1 Dic cap in bloom a few lot stri
Ephedra sp

Erifas no flower (NIB)
Salapi "
Hel Scop "
Micros sp " NIB
Scutellaria side road
fields near lines

No PE observed on S. half can be full bloom
Survey chap w/c [illegible] [illegible] Dense [illegible] [illegible]

3/11/04 cont'd.
only 1 Castilleja patch - Beehive hill / Tinyme
Tiny flowers No or Not much pe Near

UTG. Scelop   CaTo Scja Nofl   Spto Modo resp?

(3)

35.3

Perfect weather + conditions + plant/ology Today

3/19/04

9:25 65°F 50% Cloudy 0-1
10:10 67°F 30% Cloudy 0-2
11:00 66°F 15% " 1-5
1:35 68F 5 " 2-7

Sparse but nectar plants available.
Cat Strig
Linear dianth.
Crypt sp
Gilia (small) plants, single-flowered)
Hypoch gla
Plagio acanth.?
PE still woody w ± moist areas
Pecto lin
Good PE spots w/ Osmadenia tenella
Diccap
Lupbic - just starting (IB)
  OT's & Blues nectaring

FL HHH I
Sat II HHH HHH III
Fnw Skip HHH HHH
Perp HS III
SO. Blue HHH HHH
BEHR Sum HHH HHH I
Skipper larvae HHH I miniature anv?
Anise ST Tau I
Sphinx moth. II

Nobody nectar on Ceanthus?

Nanester ants preference w Diccap (little else but no Giant Sand

Few shrubs in bloom Ceanothus   Some PE a NW edge of Property seedling
cwe olin
(Branig) mustard + Grobat   Eric lin
Starting to   Senecio sp (doug?)
fill gaps below
(less than typical further   PE at best site below
1/2 of yea)   30% yellow
No evidence of grazing

(4)

Few Birds today?

Dragon fly
Bee flies
Honey Bees

Anise ST |
Pale ST |

3/27/04 Banff Summit

9:15 Clear 64°F 1-3
10:40 " 66°F 2-3
12:55 " 68°F 2-3
2:20 " 68°F 3-5

HHT HHT HHT | Fun Skipper HHT |
cool breeze HHT Behrs' HHT HHT HHT
|| SO Blue HHT HHT HHT
| HHT SOT (fresh) a few || HHT HHT
Perplex HS ||||
PL |||

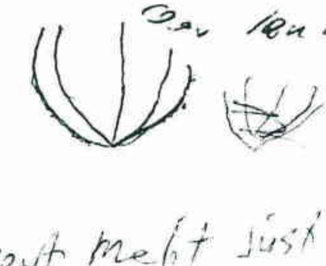
Very good hab NE Side of Hilltop

crypto nectar
QCB-colored peak ± good PE
BG

Selag big getting crispy
Most QCB annual nectar sources in Bloom
Lot Stri
Crypt int
Dic cap
Lin dic
Esh cal (1st time in Bloom
Filag cal
Keckiella ant 1st Bloom
1st Castilleja exserta in bloom
Eriodict trich bloom
Peak for Lasthenia cal
Chaenactis not bloom yet
Cup bic Just starting bloom

PE on NE Slope of hilltop
yellow but still tasty

Ephedra
Epi cal
Stylocline gnaph
Selag spin x Clav.
Vulpia microstachys
Gav len or sp.



Still No PE south of 94
Chaenactis leaves (rosettes) crispy
exotics at low abundance so far

Cant melt just small
rosettes same for Brodiaea

~~Snip Photo~~ Bsh ~~Flyxxx~~
SPTO BEWR
CATO
Notl

(5)

Barrett-SMITH ROAD
4/4/04

10:05	64°F	2-3	10% cloudy	
11:30	67	1-3	10%	
1:15	70	2-5	25% "	
1:50	71	2-5	30%	
3:30	65	3-5	60%	rain for 15 minutes then clear

Pale ST ||/
11' So Blue ||||| |||
115 OT ||||| ||||| |
BEWRS mm |||
||||| ||||| Fun Skipper ||||| |||||
Perplex HS |
PL |||
Lorg's admiral |

a little moisture in clay's
Blue fields in full bloom
Sellaginella big green again
Characteristic glade w/i 2 days of Blue
PC on side of hilltop 90% crispy (of plants)
PC a top of Dirt Road near Swish Hill Visible for
Karna als Castella exerta
Micranthe, sp (elg?)
No Calochortus in bloom - lots of last year's capsules
leaves seen under - not developed.
~~SnEflag~~ 99%
iot ~~h~~ n
Trifolium wildenovii
BestSpot low 98% crispy
Tidy tip

Lighted - wet sand of Drainage bottom

QCB? Sighting 12:20
Two adult QCB? .. Gabb's?
Saw in flight
Near Probably Bay
Followed the Drainage
Saw Second Territorial area
Newer saw w/ Blues
Took 2 Photos   1 Tattered

Saw 2nd in flight CO
for 10 sec
@ 12:34

Could have been Gabb's
Because Small
Not less on stethoscope

1 I fresh

calthrasil
Cap wren

Hops very
active

4/10/04 Barnett Smith

9:35	63	Hazy-Overcast	0-1		
10:15	65	Clear	1-3		
12:40	67	Clear	3-5		
2:45	70	Clear	3-5		

SOT ||||||||
||||||| FunSkip ||||||||||
SoBlu |||||||||
PL ||||
||| |||| BENP mm ||||||||||
Pale ST |
Buckeye |

Gabbs |
Bram B^k |

Peak bloom for nectar plants
nectar source out of phase w/ PE this season

Peak Castexe bloom
" Hyp gla
" Dic cap
Still no Fritas bloom
1st Calo splend in bloom

Hilltops Pe 90% dry
Road to Hill Pe 1/2 visible flower

SD fennel flower maven
Che glab, in bloom Just starting
Uro lind
Styl gra
Lup spars
Lup bic
Bac sara
Acti squarrosa present @ Nice Pe site
Epi can
Gal

Keckiella
Lathyrus

Larksparrow Grankesprey SCJA grasshopper
Prin? w fence lizz. CATO Honey Bees
COPA CATH Flies
YEWA RTHA Haneska Ants
Hofi B-G gnat often weggy cattle moths

4/18/04
Barrett-Smith
1-3 cool breeze

		cool breeze		
9:00 AM	63°F	30% Cloudy		
10:05	65F	25%	1-3	Checkered Skipper I
11:35	66°F	15%	1-3 cool breeze	
1:50	68°F	15%	2-3 cool	IIIII BAHR San IIIII

Ground moist from yesterdays rains Gabbs CS II
Pc 95-99% crispy FnuSkipper III
a few still green Sara OT I
Peak for Castilleja exs
1/3 of in fruit of most plant
Osmidenia terella begin bloom
Chaen glab in bloom
Carex tumu?
Uropappus flower & fruit
Good lastheni patch 60% in fruit
Adefas start bloom
old Road Pc Still visible
lupspersa
weed whacked in castilleja patch
above house @ shin height. most casto
& natives intact
Clarkia gracilis 1st bloom
api sug
Calin pue

OTWT
WEWT near Blackcrypt good spot

W Bluebird (small?) BGGNAT

PYNENBURG (BARRON SMITH)

Juvenile OTWT

4/25/04

9:05	Hazy	67°F	0-0
10:15	Clear	75°F	0-1
11:25	Clear	78°F	3-5
1:00	Clear	80°F	3-7
2:10	Clear	80 F	3-7

Delph parryi? @ S end of lower good patch w/ black crypts

BEHRS MM
Sara OT (mostly yellow)
Gabbs CS
Buckeye
Alpha alpha
Checkered Skip

Pr @ lower good (black crypt) 100% dead
Caseye perkey
lowest gully patch 99% dead
Necrop on Road 60% Pd

Clarkia #1 white (collected as pink
#2 deep magenta

Esch cal